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Reinhold Sackmann
Walter Bartl
Bernadette Jonda
Katarzyna Kopycka
Christian Rademacher

Coping with Demographic Change: A Comparative View on Education and Local Government in Germany and Poland

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Reinhold Sackmann
Institut für Soziologie
Martin-Luther-Univ. Halle-Wittenberg
Halle (S.)
Germany

Walter Bartl
Institut für Soziologie
Martin-Luther-Univ. Halle-Wittenberg
Halle (S.)
Germany

Bernadette Jonda
Institut für Soziologie
Martin-Luther-Univ. Halle-Wittenberg
Halle (S.)
Germany

Katarzyna Kopycka
Institut für Soziologie
Martin-Luther-Univ. Halle-Wittenberg
Halle (S.)
Germany

Christian Rademacher
Zentrum für Sozialforschung Halle e.V.
Halle (S.)
Germany

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Chapter 1
Introduction

Abstract Demographic change in the form of an ageing and slightly shrinking population is seen as a new challenge to society. The introductory chapter highlights the approach of this book: a response-focussed sociological population analysis using systematic theory, empirical mixed-methods research and international comparative analysis. An overview of the book chapters is given.

Demographic change is seen as a major challenge for contemporary societies. As opposed to wars, revolutions or economic crises, demographic change is a continuous, evolutionary development, seldom spectacular, but in its effects nevertheless a revolutionary challenge for societies. Societies have to either adapt to the new structural constraints or, if they fail to do so, risk a disruption of such heterogeneous fields as public finances, the labour market, institutionalised solidarity, education, and economic mentalities.

From a scientific perspective, current demographic change in OECD countries consists of two components: demographic ageing and a decreasing population. Whereas demographic ageing certainly will hit all OECD countries (and has done so for a number of decades already), decreasing populations are a quite recent phenomena. We still do not know how many societies will experience the latter phenomenon and for how long, but the likelihood is high that most OECD countries will witness some period of shrinking populations in the next 2 decades. As our knowledge of countries with decreasing populations is rather limited, this book will concentrate on this new form of demographic change (without neglecting the effects of demographic ageing).

Modernity, as we have understood it in the past 2 centuries, rested on growing young populations. Within a very short period of history, there was a worldwide explosion in the number of humans, who conquered new fields of activities in all parts of the world. It is not often mentioned that the new ideas of progress, individuality, powerful nation states and education spreading to ever-larger parts of the world society in the 19th century coincided with a rise of growing young populations. The 20th century, despite its dangerous deviations in the form of gigantic wars and belligerent ideologies, resembled its precursor in this respect as it followed the same

Author: Reinhold Sackmann

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path of growing young populations up until the end of the century. Phenomena such as youth cultures, youth movements, young political parties and ever-new modern styles of art seem to be taken for granted as the normal rhythm of modern society. Will this change with an ageing, decreasing population? Since the 1990s a number of societies have experienced periods of very low fertility, which can be seen as a possible precursor of accelerated demographic ageing and shrinkage in some countries.

Among the OECD countries, European and East Asian countries are the vanguard of demographic change. At present, most countries in these regions have a fertility rate that is well below the reproduction rate while longevity is rising at the same time. Both developments have fostered a situation where a number of countries such as Germany, Hungary and Japan now face an ageing and declining population. However, differentiation is necessary. Many East Asian and European countries have a fertility rate that is below the reproduction rate, but some have historical momentum caused by high birth rates in recent decades, as in the case of Poland, or have had a high influx of immigrants, such as Spain. This does not prevent demographic ageing, but it will keep population numbers on the brink between growth and shrinkage for the decade to come. Among the OECD countries, the USA still seems to be able to achieve a fertility rate above reproduction level. So, at least for Europe and East Asia, which are undoubtedly important regions of the world, demographic change will be a major challenge in the next 2 decades.

Does demographic change have detrimental effects on societies? Demographic change (in the form of ageing and decline) as such has no negative effects on society. To the contrary, to live longer in less crowded environments would seem to be a promising prospect for many of us. However, there are a number of areas in society where the demographic trend might create problems nonetheless. The entire *education system* is strongly affected by demographic developments. A decreasing population usually hits educational organisations such as kindergartens, schools or universities first since the focus of their work is on new cohorts. Other parts of society such as *companies and the labour market* are in a more beneficial position insofar as they have more time to adapt in advance. Patterns of recruitment, work organisation, modes of human resource management and training perspectives all will be affected by demographic change. The state, especially *public administration*, will be particularly struck by demographic change since its institutions are built to stabilise society. There we often find special long-term employment contracts that might be considered difficult to adapt to demographic change. Some authors state that demographic change will not only concern the practical procedures of a society, but also its mood and *mentality*: Growing young countries are seen as very dynamic and optimistic, although sometimes turbulent. In contrast, decreasing, older populations might be more likely to convert to a risk-averse, conservative and pessimistic mentality.

Problems such as the ones already mentioned might be seen as either very pressing or irrelevant according to one's position in society or worldview. The arena of reflection on demographic change is still mostly shaped by authors with a political or normative agenda who either claim that demographic change as such will di-

rectly affect society or hold the position that demographic change is irrelevant to societal developments.

The approach adopted in this book gives priority to the forms of societal coping with demographic change. Demographic change is conceptualised as a challenge with which society is confronted. We focus on processes by which actors, organisations and nation states try to cope with this new situation. We are interested in social forms of coping. Therefore social-psychological theories of coping are put in a more general perspective to specify mechanisms of coping used by organisations, nation states and other kinds of corporate actors.

A second feature of the approach pursued in this book is to develop a sound theoretical basis for reflection on societal coping with demographic change. So far, to date, demography and population sociology has concentrated on the projection and explanation of demographic processes but has neglected societal adaptation to demographic developments. Large parts of the current literature on the subject of coping with demographic change are therefore descriptive or normative in nature or focus on practical recipes only. By offering a theoretical model of coping with demographic change, we hope to provide a systematic means of reflecting on different strategies of coming to terms with demographic change.

A third feature of this book is that it is the result of long empirical research. The theories used in this book are therefore grounded in empirical research. This has to be underlined since demographic change in the shape of ageing and possible population decline is a rather recent phenomenon. In theory, this phenomenon had already been on the agenda in the early 1930s, a time in which some advanced western countries already experienced short episodes of decreasing populations. The period was too short to trigger systematic empirical research at the time, especially since a new consensus in economic theory formed in the 1940s according to which demographic challenges were not considered to be factors of fundamental significance for economic processes (Lee 1997; Coleman and Rowthorn 2011). We think that it would be mistaken to simply rely on general economic theory in its neglect of demographic challenges without further systematic research.

A fourth element of our approach is to gain insight by proceeding in the form of international comparisons. Despite the fact that we live in a world society, major parts of our taken-for-granted knowledge on societal processes and procedures is shaped by nation states that set most institutional orders. The effects of these institutional orders can best be studied by international comparisons. In this book we concentrate on two large European countries: Germany and Poland. They are similar in that Poland and East Germany both have experienced a comparable transformation path after the Velvet Revolution in 1989/90, including a major drop in fertility rates. Despite these similarities, we will see that Poland, East and West Germany sometimes differ considerably in their views and actions with regard to demographic change. We focus on Poland and Germany, but we have also included other countries where possible. This approach allows us to compare rather similar cases to study how and why different response strategies to demographic change yield different results while remaining aware of the wider field of heterogeneity in demographic change and in the responses to it.

Our approach—a response-focussed sociological population analysis using systematic theory, empirical mixed-methods research and international comparative analysis—is laid out in the following ten chapters. The starting point is a chapter on demographic change to specify the circumstances of the challenge to which societies have to respond. It operationalises concepts of demographic ageing and population decline and discusses important general data on demographic developments. Here we also outline the major lines of explanatory arguments for the classic demographic triad of fertility, mortality and cross-border migration with special reference to Germany and Poland.

The third chapter elaborates a general theoretical model of societies coping with major long-term challenges. According to our model, demographic change is a potential trigger for coping in the form of either adaptation and/or the mobilisation of resources. There is a long tradition in stress coping research on which we can build. However, for societies to come to terms with major challenges, institutions and organisations are the backbone of regular adaptation to new situations. Similar to individuals, who commonly use coping strategies that have evolved over a long history of experiences (which can be conceptualised as character or personality type), societies and organisations rely on institutionally established forms of coping with new situations based on a history of learning how to adapt to a variety of challenges. In our empirical analysis, path dependency (of previous institutional and organisational solutions) is an important key to understanding differences between countries, but it is not the entire story. A third building block of our theoretical model consists of routines, strategies and innovation to capture the agency of the corporate actors. With regard to the response to demographic change, we could empirically observe both taken-for-granted practices and rational strategies in responding to the demographic challenge alongside innovations with both intended and unintended consequences. Differences in mentality (that some might judge as rather subjectivistic) can be precisely modelled as modes of reflexivity that structure agency in important ways. A fourth theoretical component is the perception and framing of the problem of demographic change as a (social) problem. In the discourse on demographic change in Europe and East Asia, we find a broad range of contradictory stances such as dramatisation, ignorance or critique of ideology. The concept of framing helps to understand and explain these differences.

The general framework of the book concludes with a chapter on the methods used to gather the data. The empirical research for this book rests on a combination of the following six data sources: (1) qualitative expert interviews with municipal actors in Germany and Poland, (2) a quantitative survey of mayors in the two countries, (3) a secondary quantitative data analysis of the Bertelsmann study (also resting on questionnaires administered to mayors, who were asked about demographic policy issues), which was complemented by performance indicators of the municipalities, (4) a quantitative secondary data analysis of the SIO (*System Informcji Oświatowej*), a full-scale Polish data set on the employment periods of nearly all teachers in Poland, (5) a quantitative secondary panel data analysis of municipal revenues in Germany and Poland and (6) a secondary data analysis of key data on educational levels in Saxony-Anhalt. Despite a focus on quantitative longitudinal

data analysis, the qualitative data from the expert interviews play an important role and were interpreted with great care since we assume that an understanding of actors in leading positions in municipalities and educational organisations is crucial for understanding the procedural logic in the field.

The following seven chapters present the empirical results of the studies. The first one addresses the perception of demographic change. It is astonishing how present the demographic agenda is in Germany and how absent it seems to be in Poland, despite the fact that Poland has a total fertility rate similar to Germany. The analysis of the data shows that forms of institutionalised accountancy predispose German administrators to think in terms of demography. Institutional features such as the rules of the tax system, its mode of redistribution and performance indicators create a jargon that supports reflection on municipal affairs by reference to demographic data.

En suite, four empirical chapters highlight different strategies of coping with demographic change. A comparative analysis of personnel policy in public services in Germany and Poland reveals three conflicting strategies: expansion, reduction and reorganisation. The most risky policies of expansion we find more often in West Germany and Poland. As the budgetary potential for such a high-risk strategy is higher in Poland than in West Germany, side effects are less likely there. East German municipalities are characterised by a higher concentration of reduction policies, sometimes of an innovative kind, typically with hard-edged starts and potential recovery later. In all regions, we find potential for second-order problems of generational inequalities.

Expansion of the educational system as a response strategy to demographic change is an option often propagated by the employees of this sector, sometimes supported by parts of the public. Often these expansion strategies are detrimental to finances without raising the general level of human capital. We have analysed the Polish educational reform of the early 2000s more in depth as most indicators suggest that it had a number of positive effects on educational achievements without adversely affecting the budgets of the municipalities.

The reaction of the educational systems to demographic change, especially to shrinkage, is not only instructive because they are the first larger societal fields that have to respond to demographic developments. It is also interesting as each in itself is quite heterogeneous. Therefore it allows us to answer questions of more general interest on the relation between the division of labour and demographic change. Secondary data analysis reveals that kindergartens reduced their division of labour and stabilised their organisations in the process. Similar trends towards more multifunctional organisations could be registered in secondary schools, whereas the direct effect on school closures was strongest in the case of primary schools. A decoupling of demographic change in its relation to the number of employees and students was strongest in universities and other institutions of higher education. Information on these different degrees of resilience seems to be important for guiding the process.

Whereas adaptation to waves of demographic change, a shortage of pupils and other developments often necessitate reflection on current institutional arrange-

ments, there exists also a micro-organisational dimension of great importance. Analysis of the interviews with the heads of autonomous schools and of secondary data shows their efforts to come to terms with short-term cycles by building buffers and strategic cooperations as well as their attempts to raise middle-term flexibility by enhancing the multifunctionality of teachers' qualifications.

The final two empirical chapters try to capture the effects of different response strategies to demographic change. A quantitative analysis of interviews with mayors in Poland and Germany demonstrates that demographic change partially influences the mode of self-reflection in municipalities. Whereas the observed mentality effects of demographic change were less pronounced than Kaufmann (2005) postulated, there are nevertheless certain groups of municipalities that turn to less autonomous modes of self-reflection.

A secondary quantitative data analysis tests whether framing (i.e., the framing of coping strategies of demographic change) has an influence on the performance of municipalities. Is their fiscal capacity better? Are they more efficient in reducing unemployment?

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Chapter 2
Demographic Change as a Challenge

Abstract This chapter defines the key terms *demographic ageing* and *declining population*. It refers to important indicators to give an overview of the demographic development in Germany and Poland over the last two decades. The main determinants of the demographic situation, i.e. fertility, mortality and migration, are analysed in depth. Both Germany and Poland show fertility rates below reproduction level. Due to a higher momentum of recent birth cohorts, the decline in natural reproduction is less accentuated in Poland than in Germany. Mortality trends are similar in both countries and are the main factors contributing to demographic ageing, albeit with a cohort-specific increase in the number of healthy years. Migration patterns in Germany are very volatile. Up until 2000, net immigration offset natural population decline. Changes in immigration policy in 1993 brought an end to the considerable migration surplus, thus leading to population decline in the 2000s. Germany's reopening of its doors to immigrants since 2011 constitutes a potential trigger for population decline in Poland since Poland has a long tradition of being an outmigration country with an underdeveloped immigration policy.

Since modernity restructures patterns of interaction in society, demography is not only a matter of fate for nation states but also a challenge to which they respond in different ways. Currently, demographic ageing and population decline are new challenges with which societies have to cope.

Demographic ageing describes a situation in which the age distribution within political units or organisations changes such that older age groups become more numerous whereas the percentage of younger people declines. There are different ways to operationalise the concept of demographic ageing. We define *demographic ageing* as a structural process in a political territorial unit or organisation that leads to an increase in the median age of a given population. We prefer this operationalisation because the median is a quite robust indicator, whereas the arithmetic mean is strongly influenced by shifts in infant mortality, which might distort the index. We deliberately do not work with predefined age intervals as used in "age-burden" indices, which conceptually (and unnecessarily) attribute resource dependence to certain age groups. In contrast to this prejudiced conceptualisation, changing the

Authors: Reinhold Sackmann, Bernadette Jonda

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interpretations attached to certain age groups and fighting age discrimination are important elements of potential strategies for coping with demographic ageing.

Population decline characterises a situation in which political units witness a shrinking number of inhabitants. This can be the product of a lower number of births than deaths ('natural' population decline), a higher level of outmigration than immigration, or both. We define a *declining population* as a development in which the population of a political territorial unit or the membership of an organisation has decreased in absolute numbers during at least three 1-year periods over the past 5 years. Since migration in particular can have a strong short-term impact on population size and the direction of population development, using a 5-year interval allows correcting for such short-term volatility and focussing on structural trends.

Demographic ageing and shrinking populations are not the only challenges by which demographic developments put stress on society. During the last two centuries, rapid population growth (often in combination with an extraordinarily high percentage of persons below age 25) forced people to adapt in terms of education and the organisation of family systems, to name but two areas affected by this development. One of the first theories of demography, by Malthus (1789), pessimistically reflected on the effects of population growth on food supply. And 200 years later, the famous report "Limits of Growth" (Meadows et al. 1972) still focussed on the detrimental effects of population growth. Despite making use of various fields of knowledge, some of which were later cultivated in the social sciences, Malthus' theory was conceptualised in terms of the natural sciences and a search for universal laws. Malthus was convinced that his law showed that (exponential) population growth cyclically results in waves of famine because of (linearly increasing) food supply lagging behind. However, later developments showed that there is a sufficient increase in food supply in most societies marked by demographic growth. Even more importantly, there are no law-like regularities in the social sciences because human beings and their societies possess the means and faculties to react to the challenges they face. To name but one such response, Malthus triggered a social movement, the so-called Neo-Malthusians, who aimed to provide access to contraceptives to all strata of society in order to curb population growth and expand the options for families to make their own independent decisions on family size[1]. In contrast to the objects that preoccupy the natural sciences, social communication and change in human practices can alter developments in ways that contradict law-like regularities.

Theoretical demographic thinking was greatly influenced in the twentieth century by a typology of stages of demographic transition. This typology identifies six stages of a secular demographic transition process, usually in reference to raw fertility and raw mortality rates (Birg 1996, p. 59). In the first phase, mortality and fertility rates are both high. In the second phase, a reduction in mortality rates triggers population growth, which continues to grow rapidly in the third phase despite lower fertility rates beginning to set in. In the fourth phase, a rapid decrease in fertility rates slows population growth. In the fifth phase, fertility and mortality rates converge at a lower level, and population growth stops. In the sixth phase, originally not envisioned and sometimes called the second demographic transition, the fertility rate falls below the mortality rate, which causes a shrinking population

[1] A drop in the total fertility rate, observable in Germany since 1900, is also an effect of this social movement (among many other factors).

(Lesthaeghe 2011). Currently, world society as a whole is in phase four (growing but with reduced momentum), whereas Germany and Poland, the two societies we want to analyse in depth, are both between phase five and six (population decline). Birg uses raw fertility and raw mortality rates, which are good indicators for predicting population growth in absolute numbers. For the purpose of analysis, age-standardised figures, such as the total fertility rate or projected life expectancy, are more useful key figures as they allow a more individualised reconstruction of the social processes behind the transition process (Büttner 2000).

The next chapters will give a general theoretical outline of the research question. The current chapter starts with a general overview of the demographic situation in Germany and Poland. The question guiding this chapter is, which processes are the determinants of population decline and demographic ageing? The developments in fertility, mortality and migration are described and explained accordingly.

2.1 Current Demographic Structure in Germany and Poland

Demographic ageing is a quasi-universal phenomenon in world society (United Nations 2011, p. 5), which is undergoing a transformation from a rapidly growing to a gradually growing society. As opposed to this overall trend, only a minority of countries throughout the world recently experienced a decline in population. Germany and Poland are in this group, among which many former communist countries in Central and Eastern Europe can also be counted as well as some southern European countries with low fertility rates, such as Italy and Spain, possibly in the near future. A shrinking population is not only a feature of European societies. We also find it in Japan and probably soon in other East Asian countries such as South Korea (Coulmas and Lützeler 2011; cf. Goldstein et al. 2009). Modern nation states with declining populations are a rather new phenomenon in world history that has only emerged since the 1990s. We still do not know how many nation states will experience this development. But with more and more nation states entering phase five of the demographic transition, in which fertility and mortality rates converge, the probability of more and more nation states witnessing at least some period of population decline is increasing.

Before we go into the details of the social processes that explain demographic change in Germany and Poland, a few characteristic numbers on fertility, mortality, migration, population growth and age composition will be provided to give an overview of the development in the last two decades.

Table 2.1 illustrates that in both Germany and Poland women currently have a fertility rate of 1.3–1.4 children, which is well below the replacement level of 2.1 children. The time pattern of the fertility rates differs insofar as the (West) German fertility rate has been nearly constant at around 1.4 since the middle of the 1970s, whereas the Polish fertility rate has dropped sharply in recent decades, starting from a high level of 2.3 in the early 1980s.

Table 2.1 Total fertility rate, life expectancy at birth, net migration balance, population growth and median age in Germany and Poland (1990, 1995, 2000, 2005–2012). (Sources: Eurostat, 2012, 2013; Statistisches Bundesamt, 2013, 2014; Gołata and Jonda, 2008; GUS, 2011, 2013b)

Year	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012
Germany: total fertility rate	1.4	1.2	1.4	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4
Poland: total fertility rate	2.0	1.5	1.4	1.2	1.3	1.3	1.4	1.4	1.4	1.3	1.3
Germany: life expectancy at birth, male	72.1	73.4	75.2	76.2	77.2	77.4	77.6	77.8	78.0	77.9	77.9
Poland: life expectancy at birth, male	66.2	67.6	69.7	70.8	70.9	71.0	71.3	71.5	72.1	72.4	72.7
Germany: life expectancy at birth, female	78.4	79.7	81.0	81.4	82.4	82.7	82.7	82.8	83.0	82.6	82.6
Poland: life expectancy at birth, female	75.2	76.4	78.0	79.4	79.7	79.8	80.0	80.1	80.7	80.9	81.0
Germany: net migration balance (in thousands)	682	430	167	82	26	45	−54	−11	130	279	369
Poland: net migration balance (in thousands)	−16	−18	−20	−13	−36	−20	−15	−1	−2	−4	−7
Germany: population growth (in thousands)	521	279	96	−63	−123	−97	−215	−200	−51	92	196
Poland: population growth (in thousands)	85	19	−9	−17	−32	−10	20	31	33	9	−5
Germany: median age	37	38	40	42	42	43	43	44	44	45	46
Poland: median age	32	34	35	36	37	37	37	38	38	38	39

Demographic ageing is also driven by a rise in life expectancy, which in both countries amounts to an increase of 5–6 years for both sexes over the last two decades. In Poland, life expectancy is still lower than in Germany; in particular the gender gap of 8 years is much larger in Poland (Rządowa Rada Ludnościowa 2011, p. 144).

The two countries differ in their net migration rate (Table 2.1). Poland has been and still is a country with high outmigration and low levels of immigration[2]. Whereas Poland has had consistently high levels of outmigration for some time, the numbers in Germany are highly volatile. There a high immigration surplus of more than half a million at the beginning of the 1990s neared zero in the 2000s but has gained momentum again since 2010.

The effect of these differences in fertility, mortality and migration is that the German population decreased between 2005 and 2010, whereas the Polish population shrank in the 5 years before 2007 but has returned to equilibrium since then. However, as this divergence has mainly been caused by the higher momentum of earlier population growth in Poland (an 'echo' of the baby boom of the 1980s), the probability of returning to decreasing population numbers is quite high there. This process has again set in since 2010.

While both countries are now demographically ageing societies, the speed and level of this development is faster and higher in Germany than in Poland. Demographic ageing is projected to proceed faster in Poland than in Germany in the coming decades (Lanzieri 2011).

In a world society that is still growing (and will continue to do so at a slower pace for most of this century), population decline will remain a regional feature. A pattern of national population decline persists only in countries where there are barriers to immigration or (less often) that are considered unattractive destinations. Within nation states, population decline also has a strong regional component. Some regions in Germany, such as most parts of East Germany and the Ruhr region, are shrinking faster, while other parts in southern Germany, especially the greater Munich or Stuttgart areas, are growing. Poland features similar regional patterns of decline: the eastern parts and Upper Silesia are shrinking, whereas the regions around Warsaw[3], Krakow, Poznań and the northern cities Gdańsk, Gdynia and Sopot are growing.

In summary, we can say that Germany experienced a period of a consistently declining population in the last decade and has been demographically ageing at a fast pace for several decades now. Poland, by contrast, witnessed a period of population decline during the middle of the first decade of the twenty-first century and is near equilibrium now. While Poland is also an ageing country, this trend is proceeding at a lower level and slower pace.

2.2 Determinants of Lower Fertility Rates

The following sub-chapters provide an analysis of the current determinants of population size and dynamics. We will proceed according to the three major determinants of population size: fertility, mortality and migration.

[2] Current statistics underestimate outmigration as many Poles register with their municipality despite the fact that they have left their country for an indefinite period of time (emigracja zawieszona = floating emigration) (Jończy 2009). The national statistics office estimates the number of Poles living outside of Poland in 2010 at 1.99 million people (GUS 2011).

[3] Birth data for Warsaw are systematically overestimated as all Polish children born outside of Poland by parents registered outside of Poland are counted as having been born in Warsaw.

Demographic analysis traditionally focuses on fertility. Why is the fertility level in Germany and Poland so low? The discussion usually revolves around the reasons for a decline in fertility. In the case of Germany, it would be more precise to ask about the factors that have stabilised a total fertility rate of around 1.4 children for nearly 40 years now and the mechanisms involved in reproducing this structure. To answer this question, we discuss in more detail major components, such as late births, a low number of high parities, motives for no children or only one child and motives for two and three children, as well as the effects of family policies.

One structural component of lower fertility rates is a *rise in the age at which mothers give birth to their first child.* In Germany, the mean age rose from 24 years in 1970 to 27.5 years in 1995 and reached 30 in 2009. We can observe a similar trend in Poland. The mean age of Polish mothers at the birth of their first child increased from 22.8 years in 1970 to 23.8 years in 1995 and 26.6 years in 2010 (GUS 2011; OECD 2012). This rise is connected with the prolongation of women's participation in education, especially higher education. In Western countries there is an institutional tension and a role conflict between education and family formation (Blossfeld and Jaenichen 1993). This tendency is currently also present in Poland. The level of education of mothers has changed dramatically over the past 20 years. Whereas only 6% of all mothers had earned a graduate degree at the beginning of the 1990s, the percentage rose to 40 % in 2010, which is almost seven times the previous amount. The largest jump in this area occurred within the last 10 years; nevertheless, the percentage of mothers with a graduate degree was only 13 % in 2000.

In addition to education, the job entry phase is seen as another sensitive period in the life course—a time in which most potential parents try to avoid starting a family (Blossfeld et al. 2011). The current situation in the Polish labour market is an obstacle that many young people have to overcome when starting a family. This reinforces the tendency to postpone family formation. It is also becoming increasingly apparent that the difficulty of reconciling family and occupation in Poland prevents many women from having children early.

A life-course pattern of first births at a later age is not a universal feature of modern societies. Communist regimes tried to entice women, especially academics, into early birth in the early 20s with the intention of avoiding parental leave during the middle years of their working life. Another cause—unintended by the regime—was that allotment criteria for scarce housing also supported early family formation (Sackmann 2000). With the transition from a communist economic regime to a market society both in the former GDR and in Poland, mothers' age at first birth increased quickly but currently still lags behind the West. (The indicator "total fertility rate" is sensitive to changes in the timing of births (Blatchford et al. 2002); in the short term, it therefore misinterprets a rise in maternal mean age at childbirth as a drop in fertility rates. Extremely low total fertility rates, for example 0.77 in East Germany in 1993 and 1.22 in Poland in 2003, are also due to the aforementioned timing effects.)

However, changes in the timing of births are not only acts of rearranging events in the life course. They can also have a causal effect on the number of births because a higher mean age at the time of first birth influences the number of children afterwards: the biological fertility of women drops after age 35. Also in the case of divorce and remarriage, the time left to have children with a new partner might be too short in cases where having children has been postponed.

A second structural component of lower fertility rates lies in a *sharply decreasing number of high-parity children of four and more children* in a family. One cause for this development is a secular change in the value of children (Nauck and Trommsdorff 2010; Caldwell 1982), according to which the value of children in terms of their utility to the household economy, especially as farm helpers, disappearing as compulsory schooling is becoming universal. Even some immigrant groups in West Germany who originated from countries in which the economic value of children still plays a role have adapted quite rapidly, in the vast majority of cases, to the opportunities of the new host society and have accordingly adopted a view of children based on more 'modern' values. Within the indigenous population, those who strictly comply with religious dogma (e.g., conservative Catholics) and thus tend to give birth to a large number of children are also becoming fewer in number.

In contemporary advanced societies, the range of total fertility rates is therefore much smaller than its variance in traditional or modernising countries. The average number of births per woman is between 1.0 and 3.0 children in all of these societies. As a consequence of this development, research on the factors that explain fertility rates slightly above reproduction level, at reproduction level or at rates well below reproduction level has to concentrate on the causes of child parities of zero, one, two and three children. The mixture of these four groups is a decisive factor in shrinkage.

Motives for having one child are very strong in contemporary societies. Sociological research in the value-of-children tradition shows that the strongest current parental motive for having children is the emotional fulfilment derived from having children (Nauck 2007). This subjective utility can hardly be substituted by other goods or activities (Becker 1998). As biological causes for childlessness are responsible for around 10 % of potential parents who remain without children, higher rates of childlessness can usually be attributed to difficulties in partnership formation or strong incompatibilities between different life spheres. For instance, in the GDR under the communist regime, the *percentage of childless women* was below 10 %, which is an indicator of low incompatibilities between life spheres. By contrast, the percentage of childless women in younger cohorts in West Germany is around 20 %, which is an indicator of high incompatibilities. Research shows that in times of high female employment—encouraged by general values that support female labour force participation as a symbol of female liberation and independence—most countries that subscribed to a strong male breadwinner model in the twentieth century face a rising number of childless women today (Billari 2008; Brewster and Rindfuss 2000). West Germany, Italy and Spain are among this group of nations. The explanation for the seemingly paradoxical relation between aggregate low female labour force participation and aggregate low fertility rates lies in the effort of women in these countries to avoid or postpone family formation as long as possible as the price of having children is very high for women's careers in terms of their chances of advancement and higher wages. Social and educational policy schemes that provide childcare and schooling on a half-day basis only have a prohibitive impact, especially on the careers of highly educated women, who in Germany exhibit a higher rate of childlessness than lower-educated women.

Motives for having two children are twofold. Firstly, according to opinion polls, the perceived ideal number of children in Germany is two. This is well-known and can be viewed as a weak social norm. (It is a weak norm insofar as it rests more on positive than on negative sanctions.) Secondly, a strong parental motive for a second child is that it is believed that two children of similar age provide a better setting for socialisation as the two siblings can guide and assist each other and are in a better position to acquire social skills (Buhr et al. 2011). This second motive is connected with the timing of child births, especially with the 'spacing' of the time interval between first and second child. In Germany, the optimal spacing is seen to be between 2 and 4 years (Kunze and Sackmann 2008). The strength of the socialisation motive decreases after this window so that the birth of a second child becomes more improbable the older the first one is. These motives play a huge part in Poland as well. Employed Polish women with a university degree are more likely to choose to have a single child than unemployed women. The choice to have a second child, on the other hand, is more common among unemployed mothers. The chances of women with two or more children to find employment are decreasing in Poland (Kotowska 2010).

Motives for having a third child are diverse. In contrast to other countries such as France, there is no cultural norm pushing for three children in Germany. However, as in most countries with a gender-egalitarian culture, there is a tendency for both parental sexes to prefer having children that 'mirror' their own gender. Therefore, the probability of a third child is higher in the case of the first two children being of identical sex (Yamaguchi and Ferguson 1995). As in other contemporary societies, the relationship between income and having a third child is curvilinear with a slightly higher probability of a third child for high-income fathers and a slightly higher transition rate for low-income parents.

Fertility patterns are often referred to in reforms of *family policies*. Family policies govern the rules of absence from the labour market as well as access to social benefits and services. By offering women conditions to better reconcile work and family, these policies define the intensity of the institutional incompatibilities between the two spheres of activity. Not surprisingly, the cross-country variation in family policies is often referred to in discussions on the interrelationship between fertility and the supply of female labour (Matysiak 2011).

In Germany, the effects of family policy are quite weak. Expenditure for family policy has more than doubled since the late 1990s, but it has not caused a rise in fertility rates (Blome et al. 2009; Seeleib-Kaiser and Toivonnen 2011). Despite the fact that public expenditure for families is now clearly above OECD levels, fertility levels have consistently remained below the OECD average. Family expenditure until 2008 concentrated on proportional tax relief for married couples and children on the one hand and direct income subsidies for parents on the other. Recent policies have experimented more with better childcare provision for preschool children and with parental leave. Up to now, no strong effects of these policies could be observed. Despite the fact that gender mainstreaming is an official EU policy, the reality in German companies, unlike the situation in Scandinavian countries, is more gendered, which creates a tension between life spheres that hinders fertility.

Family policy is one of the "strategic topics" in Poland and is also seen as one of the most important challenges there. Yet the public assistance for families provided by the Polish government is the lowest in all of Europe (Matysiak 2011).

In summary, the fertility patterns in Germany show a strong persistence of a low fertility equilibrium, which in West Germany is defined by a polarised constellation consisting of a large percentage of childless couples, on the one hand, and a large proportion of couples with two children, on the other. This is due to the implicit prevalence of gendered work relations both in companies and private households.

2.3 Determinants of Mortality Decline

The fall in the mortality rate, and the rise in life expectancy as the flip side of the coin, influences population dynamics in two ways. Firstly, it slows down population decline in terms of natural population dynamics. Secondly, and more importantly, it is an independent factor in demographic ageing.

Four developments in the field of mortality are important to understand changes in mortality in Germany and Poland in recent decades.

Declining child mortality as well as fewer deaths caused by *infectious diseases* are two in the long line of social changes that have marked modern societies since the early twentieth century. More hygiene, better housing and improved medical services have induced this development.

Death rates in Germany were influenced by the late effects of the First and Second World Wars. This was also the case in Poland. Up to as recently as 2002, we find higher war-related effects on mortality and morbidity rates in Germany (Luy and Zielonke 2009). These long-term effects were caused by wounds, traumas and malnutrition in wartime and early post-wartime periods. They have been decreasing since the turn of the century. Due to the difficult living conditions in Poland, the life expectancy of people who were involved in the war was very low.

The mortality development follows a pattern influenced by the Iron Curtain. Until the early 1970s, life expectancy in East Germany was slightly higher than in West Germany. Between the 1970s and 1990, the communist countries lagged behind more and more in terms of mortality. In 1988/1990 both men and women lived 3 years longer in West Germany than in East Germany. By 1999 this difference had already shrunk to a 0.5-year longer life for West German women and a 1.6-year longer life for West German men (Luy 2004). Environmental differences, less strenuous physical work, lower risk behaviour (smoking, alcohol, high-fat food and obesity) and better medical care were responsible for the once growing and later shrinking gap between East and West Germany. Since the turn of the century, differences in risk behaviour are still more important for men than women. A decomposition analysis shows, for instance, that East German men lose 0.5 years compared to their West German counterparts because of a higher rate of cirrhosis of the liver and an extra 0.5 years as the result of a higher number of road accidents.

In 1990 gender differences in Polish life expectancy were even larger (9 years), and the gap had only dropped to 8.5 years by 2010. Decomposition analysis shows that approximately 50 % of the gender differences can be attributed to the higher level of alcohol and tobacco consumption among males (Mączyńska 2001). In general, Polish life expectancy has followed a similar pattern of historical development to the one observed in Germany. In the communist era between 1965 and 1990, the life expectancy of males above age 45 decreased in the range of 2 years, whereas between 1990 and 2010 it increased by an average 3.5 years (Rządowa Rada Ludnościowa 2011). The main causes of the post-transformation increase are less hazardous jobs, an improved environmental situation, better medical care and a healthier lifestyle (the consumption of fruit nearly doubled while cigarette consumption dropped by 35 %) (Rządowa Rada Ludnościowa 2011).

Generally speaking, there is an increasing *life expectancy after age 60*, especially since the 1970s (Oeppe and Vaupel 2002; Vaupel et al. 2003; Vaupel et al. 2007). Ischaemic, heart-related problems are losing ground to cancer as mortal illnesses (Lussier et al. 2008).

In Germany, higher life expectancy is connected with less sickness in all age groups between 40 and 81 (Tesch-Römer et al. 2006). This rise in the number of "healthy years" is not entirely due to diminishing post-war effects, as it has also been observed in countries that were not directly hit by the wars of the twentieth century, such as Switzerland (Höpflinger 2007).

Very high mortality rates have been observed in Poland among men of all age groups. At age 20–25, the mortality rate of Polish men is four times higher than that of Polish women. Only around 20 years ago, cardiovascular disease caused approximately 50 % of all deaths; this percentage has decreased substantially in recent years (GUS 2011).

In summary, changing mortality and morbidity patterns in both Germany and Poland have caused a trend towards increasing longevity. The impact of demographic ageing is alleviated insofar as reaching a higher age is associated with less frailty caused by morbidity compared to previous cohorts at the same age.

2.4 Determinants of Migration Patterns

Migration is the third component that is decisive for the explanation of population size in a given society. In terms of communication and interaction, world society is the only natural social unit, which since the end of the nineteenth century has encompassed all parts of the earth. Theorists such as Luhmann (2012; 2013), Stichweh (2007) or Meyer (2010) stress that world society is the adequate unit for analysing processes of structuration, reproduction and exchange. However, in the current world society, the nation state is the most powerful corporate actor. Therefore most actors view societies as nation states that exist alongside other societies with which they may exchange goods, harmful by-products, ideas and people. The differentiation between the level of world society and the nation state is especially relevant

for the analysis of migration. In the perspective of a world society, regulations on migration hinder individual movements of people; in the view of the nation state (often interpreted as a community), transnational migration is seen as a problem of national integration that has to be regulated.

We will analyse migration in five steps. Firstly, structural components that push or pull migration are discussed. Secondly, the logic of patterns of migration in relation to the individual life course is explained. Thirdly, the importance of the transnational nature of present-day migration is shown. Fourthly, border regimes are illustrated as central to our understanding of the modern nation-state's logic of migration. Fifthly, hybrid forms of migration are addressed to draw attention to the dynamic nature of migration patterns as a developing form of structuration.

2.4.1 Structural Components

Since the nineteenth century, structural elements have been seen to exert a major influence on migration patterns. The distance of the place of current settlement (origin) to the envisioned point of future activity (possible destination) determines the transaction costs of migration. If the destination is near enough to travel back and forth on a daily basis, commuting is a likely alternative to migration. On the other hand, as the distance to the destinations increases, the rate of migration decreases since the search costs at the potential new location increase along with the costs of relocation[4].

In addition to geographic distances, economic differences structurally influence migration patterns. The availability of jobs and higher wages attracts people and pulls them to new places. For instance, in the 2011 census 77 % of the Poles living abroad stated employment and higher wages in particular as the main reasons for emigration. Therefore, places that belong to the 'centre' of the OECD world are preferred destinations for migration as they offer higher levels of income. Despite the fact that unemployed persons are less mobile than employed or non-employed persons, the unemployment rate at a potential destination is a good indicator of potential immigration as it indicates opportunities for newcomers. Economic processes in a market society follow cyclical patterns of boom and recession periods. In Germany, migration follows a pro-cyclical path: immigration increases in times of boom, whereas it decreases and outmigration rises in periods of recession.

Language constitutes a further structural component of migration. Identical languages in the place of origin and destination increase the rate of migration. Migration can also be triggered by the nation state acting as a push factor of migration. People try to avoid dangerous, uncomfortable or risky situations by moving to another country in response to war or oppression. However, some repressive states try to prosecute outmigration, thus limiting outmigration in those states. The rise of the nation state in the twentieth century led to large migration flows, especially in Europe. Ethnic cleansing and discrimination, sometimes following the involvement

[4] For migration patterns within nation states in particular, the availability of individualised transport, especially private cars, changed the scale of feasible distance. Commuting became a more viable alternative to permanent migration, and this has strengthened suburbanisation.

of parts of the population in wars or ideological confrontation, drove millions of inhabitants across the continent.

2.4.2 Patterns of Migration in the Individual Life Course

Whereas structural components can influence the size of migration flows between regions, the specific act of migration is usually based on individual decisions. Migration between countries typically is not the result of spontaneous behaviour but involves some degree of reflection on the pros and cons. In the perspective of rational choice theory, a decision is made by weighing the subjective costs and benefits of migration. Most people never migrate between countries. This is the result of the high subjective costs of migration, which involves losing one's job, family, friends, routines and so forth. The more a person has invested at a particular locality, the higher are the subjective costs of migration and the less likely is relocation. Another characteristic of a migration decision is that it is an investment decision with risks. Usually the costs of migration show up almost immediately, whereas the benefits of the new destination are usually realised at a much later point in time. Migrants therefore tend to be more risk prone on average than other parts of the population, and they have more resources for investment than others.

Traces of this decision structure of migration can be seen in patterns of migration across the life course. In modern society, migration peaks in three phases of the life course: most frequent by far is migration between the age of 18 and 30 (Friedrich 2008). Many people at that age have not yet invested in their own homes, their own family and in existing work relations. For them the cost of migration is therefore far lower than for other age groups. Growing participation in higher education has increased the importance of this pattern as both attending a university and entering one's first job afterwards usually involve migration processes. More significant for intra-nation migration (and less for inter-nation migration) is a second peak of migration during the life course, which typically occurs already at age 0–5 as the result of young families moving to suburban settlements where they often buy a home or flat. A third very small peak of migration is around age 60–65. This migration wave is triggered by retirement decisions. In Germany, as in other Western European countries, some people move to Southern European countries. However, the volume of this latter outmigration pattern has no major influence on migration patterns overall.

The age structure of migration is important as it is an independent driver of demographic ageing and population decline. As the emigrating population is younger than the non-migrating population, countries with surplus emigration experience accelerated demographic ageing, which at the same time accelerates population decline since the emigrating cohorts are more likely to be of family-formation age than the non-migrating population. On the other hand, countries with surplus immigration can reduce both demographic ageing and population decline.

2.4.3 Networks

Despite the fact that most migration decisions are made individually, these decisions are embedded in networks of relations that foster migration and provide a specific interaction pattern with an impact on the long-term consequences of migration. Any potential migrant has to overcome an information asymmetry: the person knows far more about his or her place of origin and far less about the destination. Despite the high availability of low-cost information about any place in the world through books and the Internet, there is still a difference between anonymous and personal information. Family members, friends or persons known in the local community who have successfully migrated are role models that lower the threshold to move. They can also offer specific help in the crucial early months at the new destination. They can provide accommodation, help in understanding new requirements and sometimes may even be able to provide access to jobs or educational opportunities. As networks are useful for migration processes, we typically find chains of migration, i.e., later migrants following earlier pioneers to the same destinations, which bolster the formation of communities at the new destinations. In larger cities (and sometimes also in small destinations), there are clusters of immigrants from specific regions or of the same nationality. In the last two decades, commercial organisations that provide information and assist in migration have grown in importance, yet they have not supplanted personal networks. One example of network-driven immigration is Poles in Great Britain. Their number quadrupled from 150,000 in 2004 to 637,000 in 2012 (GUS 2013a). This development was enhanced by Britain's decision to permit Polish immigration immediately after Poland became a member of the EU in 2004.

During the past few decades the concept of transnational space has drawn attention to the transnational nature of migration processes, which is strongly represented by the networked character of migration. Whereas networks and chains of migration facilitate migrations because they lower the costs and risks of migration, networks also explain the effects of migration processes. The resources needed to finance migration are often provided by families. Migration enlarges a family's 'field of operation' in terms of economy, family formation or differentiation. Migration is also still an important way for ideas to travel. New experiences with lifestyles, habits, knowledge, institutions and skills are gained at the destination and are communicated to the place of origin. Sometimes ideas also travel in the other direction—that is, from the place of origin to the destination—and quite often both worlds are mixed to create new ideas. Inventions of foods such as the supposedly Indian curry in Britain or the (inauthentic) Turkish *doner kebap* in Germany are just two of these sometimes surprising new ideas. Within transnational space, resources are exchanged as well: business ideas, capital and sometimes simply money. For a number of countries remittances from migrants are an important source of revenue for the national economy. And last but not least, transnational spaces are important alternative political power spots. Outside of the grip of the nation state of origin,

alternative ideas for political reform, especially in the case of repressive states, can be expressed and acted upon.

2.4.4 Border Regimes

In addition to structural components and individual decisions, border regimes regulating migration between states are important in understanding the volume and structure of migration in a world society in which the dominant structure is the nation state. In most countries, with the major exception of China, migration within the nation state is no longer regulated. People can move to any place they choose provided that they have the resources to do so. By contrast, inter-nation migration is characterised by a high degree of legal regulation. The details of such regulation are very much country-specific. Until 2000, German citizenship law reflected the principle of *ius sanguinis*, which meant that citizenship was handed down by familial descent, and naturalisation was possible only in exceptional cases. A major immigration wave in the 1940s and 1950s consisted of millions of Germans who were expelled by the new communist regimes in Central and Eastern Europe. Prior to the erection of the Berlin Wall in 1961, immigration from the communist GDR to its Western counterpart, the FRG, was also considerable. A growing shortage of labour led West Germany to recruit workers in Spain, Italy, Greece, Yugoslavia and Turkey in the 1960s and 1970s, the largest group being Turkish nationals. Whereas the original concept assumed short-term immigration of low-skilled workers, the end of recruitment in 1973 led to widespread decisions among immigrants to avoid the risk of never being allowed to re-enter by forming families in their host country and creating an ethnic infrastructure of houses, mosques and shops. The military regime in Turkey in the 1980s led to a growing stream of Turkish nationals seeking asylum in Germany. In the late 1980s and early 1990s, Germany witnessed another immigration wave, this time of ethnic Germans primarily from Romania, Poland and the former Soviet Union. Growing conflicts within Germany, accompanied by spectacular right-wing attacks, led to a very strict cutback in immigration after 1993, which reduced the number of asylum seekers to below 100,000 and made it very difficult to immigrate to Germany, even for ethnic Germans from eastern countries. The spectacular drop in immigration in the 1990s and 2000s, characteristic of the population development in these decades, was mainly the result of these tough restrictions on immigration. A change in citizenship law in 2000, which introduced more elements of *ius soli*, whereby the place of birth is more important than familial descent, allowed more immigrants already living in Germany to acquire German citizenship, but it did not open doors for more immigration. As in most Western European countries, integration of immigrants is a highly controversial issue in German politics. Specific to the German situation might be that the discussion is still dominated by the traditional political parties and the antagonistic voices therein; no populist right-wing party has been able to establish itself and muster sufficient support in Germany so far.

In line with its broader policy, Germany had postponed the granting of work permits for new EU citizens from Central and Eastern European countries until 2011. Despite the fact that immigration numbers from Poland and other new EU members have increased since then, they are still at a moderate level. However, this new situation has considerably influenced emigration from Poland to Germany. According to Polish and German data, half a million temporary Polish migrants now live in Germany (GUS 2013a). These migration flows strongly influence the population development in both countries.

2.4.5 Hybrid Forms

Overall migration patterns in recent decades have been shaped by an ambiguous development that has given rise to new hybrid forms of migration. On the one hand, migration has become easier today. Some reasons for this are better education systems in most countries so that most migrants speak a second language, which eases communication barriers; extensive geographical networks and Internet communication that have increased our knowledge of different parts of the world (Fassmann 2002); and the increasing similarity of the lifeworld in the country of origin and destination due to the accelerated spread of a consumer society based on a single world market. This reduces the transaction costs of migration. On the other hand, the successive closure of legal avenues of immigration in Germany between the 1960s and the 2000s is not an isolated case. Major immigration countries such as the USA, Australia or France all have higher barriers to immigration now than they had a few decades ago. Other major countries of the economic centre, such as Japan, never opened their doors to a larger influx of migrants. A result of this development is that the opportunities for permanent legal immigration have decreased.

People have creatively adapted to this ambiguous constellation of circumstances by developing new patterns of migration, so-called hybrid forms. Short-term migration for a timespan of 1–4 years is increasing. Migration for educational purposes, which has been sharply increasing since the 1990s, is just one such form of transitory migration, which seems more like a project than a change of identity to adapt to a new country.

Another feature of these new hybrid forms of migration is that the percentage of illegal immigrants is on the rise. Whereas some countries such as the USA, Italy and Spain have a long tradition of illegal immigration, which has allowed them to develop procedures to cope with this problem, countries like Germany are still very unfamiliar with this phenomenon and still try to ignore the resulting problems.

Contrary to the general pattern of closing rather than opening the doors for migration, within the European Union the free movement of persons is one of the guiding principles of this supranational unit. After eastern enlargement, it remains to be seen whether open borders will create long-term migration imbalances between nation states in the EU.

To summarise, both Germany and Poland show fertility rates below reproduction level. Due to a higher momentum of recent birth cohorts, the decline in natural reproduction is less accentuated in Poland than in Germany. Mortality trends are similar in both countries, mainly contributing to demographic ageing (however, with a cohort-specific increase in the number of healthy years). Migration patterns in Germany are very volatile. Up to 2000, net immigration offset natural population decline. Changes in immigration policy in 1993 caused an end to the considerable migration surplus, thus leading to population decline in the 2000s. Germany's reopening of its doors to immigrants since 2011 constitutes a potential trigger for population decline in Poland since Poland has a long tradition of being an outmigration country with an underdeveloped immigration policy.

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Chapter 3
How Do Societies Cope with Complex Demographic Challenges? A Model

Abstract This theoretical chapter begins with a short review of the existing literature in economics and sociology on how societies cope with demographic change. Then demographic means of coping with demographic problems are discussed in terms of family policy and migration. As most effects of demographic change cannot be countered by demographic coping—at least in the short term—a systematic theory of non-demographic coping with demographic change is developed. This theory focuses (a) on the process of problem framing, (b) the development of coping strategies, (c) the institutionalisation of adaptability and (d) mentalities as the longue durée of coping. The general concept is specified by an analysis of labour market flexibility and the division of labour in public sectors that have been confronted with demographic change. We theorise on the basis of a realistic model of problems, which are constituted by a discrepancy in the resources available to a social unit and the aspirations it develops. A second element, coping attempts, is characteristic of coping strategies that follow a similar but not completely congruent logic: The coping strategy of expansion tries to regain resources by shifting the focus to new areas of activity either by following a plan or by improvising collectively. The coping strategy of reduction seeks to readapt aspirations either by reducing activities or by switching identity, which can be carried out by cultivating diversity. The coping strategy of reorganisation either replaces people or changes structures. The coping strategy of threat rigidity is characterised by non-reaction.

If one attempts to understand how societies cope with demographic change, the answer is part of general theories of social change. During the last century a whole range of theories of social change was developed, the most prominent ones being evolutionary theories and modernisation theories (e.g., Parsons 1971). Most of these sociological theories did not include demography (with the exception of the theory of Durkheim, to which we will return later). Within the narrower field of demography, demographic change is interpreted by the theory of demographic transition, which highlights the development of growing populations but has little to say about declining ones (Lutz 2007, p. 16).

Author: Reinhold Sackmann

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In this open-ended situation, we use the concept of challenge and response, originally developed by the British historian Arnold Toynbee (1949, 1957) to analyse the rise and fall of the 23 human civilizations the earth has seen up to now. His concept stresses that there is no deterministic regularity in human history. He also points out that civilizations have the potential to learn when they are confronted with new problems. Yet he is realistic enough to state that whereas some civilizations successfully solved some of their problems, most of them failed at some point.

To build a more precise model of how societies cope with demographic challenges, this chapter proceeds in three steps: (1) it gives a short selective review of the existing literature, (2) discusses demographic means of dealing with demographic effects and (3) develops the concept of *coping with demographic challenges*, proceeding from the level of individuals to organisations and from institutions to mentalities.

3.1 A Short Review

If we think of the entire body of demographic literature as a bookshelf, the largest part will be on fertility, a smaller portion will be on mortality, an even smaller pocket will deal with migration and the smallest segment will report on the consequences of demographic developments (see Mackensen 2001). Up until the first third of the twentieth century, the social science disciplines were still intermingled. The name of this single mixed field of social science varied according to time and nation. In Germany, for instance, demography was part of the sciences of the state (*Staatswissenschaften*). Demographic questions at that time addressed both causes and effects. Nowadays, causes are analysed in demography and sociology, whereas demographic effects are discussed in economics, sociology, political science and human geography, to name just some of the major disciplines involved. In this short review, we want to outline approaches in economics, sociology and fields of interdisciplinary research.

Most systematic theoretical thinking about the effects of demography on societies has been done in economics. Whereas in the early economic thinking of Bodin or Quesnay natural processes such as population growth or decline were seen as central to explaining economic growth or decline, in current theories the symbolic nature of the price regulation of economic exchanges and the near-perfect substitutability of factors of production (capital, labour, land and knowledge) are taken for granted. The watershed between the two positions (still mixing both perspectives) can be seen in the work of Keynes (1937) and Hansen (1939). In a thought experiment, Keynes shows that a declining population will reduce capital growth as realised demand lags behind expected demand, which promotes a pessimistic mood in contrast to a situation of population growth. However, Keynes argues that population dynamics are not deterministic since rising consumption and rising productivity are possible substitutes. So one could argue that Keynes combines natural with social arguments. He does not follow the neo-classical tradition in economics

that has been dominant since the 1970s insofar as he even suggests that institutional reform influencing either the interest or savings rate might prevent both excessive population growth and unemployment.

Subsequently, the knowledge of these economists of the Great Depression (who witnessed a sharp drop in the total fertility rate) got lost. "Keynes and Hansen raised the spectre of secular stagnation due to the hypothesised effect of slowing population growth on investment demand in Europe and the US, a concern that subsequent historical experience and recent scholarship reject" (Lee 1997, p. 1100). Later economists, like Lee, see factor substitutability in markets as a self-regulating mechanism that can deal with all external factors (population included). For them, population growth is an (insignificant) explanatory variable.

Following Keynes' logic, population decline (in his time) would adversely affect growth rates only if interest rates were not kept below market rates. Similar to Malthus, Keynes successfully influenced the social causality of the processes he studied. His ideas partly inspired the Bretton Woods system, which *ceteris paribus* was successful in holding interest rates below the level of the thirties and thus paved the road for the 'golden' post-war decades from 1950 to 1980 (Reinhart 2012; Sbrancia and Reinhart 2011).

Whereas Keynes thought that population numbers as such influence growth rates, recent empirical work has shown that the demographic transition influences growth rates through its age structure. Whereas in early phases of demographic transition the high proportion of young people dampens growth rates in the form of a demographic burden, a combination of declining birth rates, rising numbers of people of working age and still few people of old age produce a demographic dividend in later phases of the demographic transition. About half of the extraordinary growth rates in East Asia during the last decades are explained by this effect (Bloom and Williamson 1998; Reher 2011).

Implicit in this argument is that as the demographic transition moves to phase five or six (stagnant or declining population), a drop in the working-age population combined with a growing number of old-aged persons will erase the demographic dividend or might even turn it negative (Mishra 2008). Whether this will happen is still open to debate. Neoclassical thinking sees a solution in substituting the factors of production: lower labour supply will raise efficiency, which will solve negative demographic effects (Kosai et al. 1998). Generally, more investment, especially in knowledge, is seen as a counter-strategy (Reher 2011). In a simulation, Mason and Lee (2006) even postulate that a higher rate of wealth (and capital interests) will yield a "second demographic dividend". After the financial crises, with interest rates near zero in many OECD countries, this seems to be an unrealistic assumption. Coleman and Rowthorn (2011) share the view that the substitution of labour by investment in both human and economic capital and higher efficiency will offset the demographic effects of declining populations, but they cautiously add that in the case of long-term shrinking populations over a 50-year timespan, investments might be avoided in countries such as Germany and Japan (Coleman and Rowthorn 2011, p. 238).

An important caveat to the debate on demographic dividends and burdens is that they do not emerge automatically in the course of markets adapting to the new

situation. They merely provide a window of opportunity that societies either take advantage of by coping or which is lost, perhaps even aggravating the problem through wrong decisions (Pool 2007).

Besides economics, sociology is another discipline in which demographic change is discussed in a broad perspective. Sociological analysis of demographic effects has concentrated on two elements of the process: How can we explain the genesis of demographic discourses? And what are the societal consequences of a declining population? Demographic discourses come and go in societies, but they become prevalent at certain times. A common pattern of demographic discourses is that they describe social processes as if they were natural ones. Therefore, in the process of the construction of social problems, the interpretation of a problem as a demographic one suppresses other interpretations—a process that can be described as the "demographisation" of a problem (Barlösius and Schiek 2007). A prominent example of such demographisation is the wave of demographic discourses that set in around 2000 in Germany (Bartl 2011). In public debates, empty housing estates in East Germany were attributed to dwindling birth rates and outmigration. A national emergency programme (Stadtumbau Ost) subsidised the tearing down of surplus housing so that housing markets are more balanced today. However, detailed analysis shows that growing preferences for larger flats have offset the demographically caused drop in demand. The imbalances in the housing market were mainly created by excess subsidies for building and refurbishing apartments and houses in the 1990s (Bundesministerium für Verkehr, Bau und Stadtentwicklung 2008). (A comparison with other transition countries, Poland among them, also shows that despite similar demographic developments, most countries did not produce an oversupply of housing. In those countries, politically curbed rental prices were more likely to create a shortage of housing than an oversupply).

Discourses, however, are just one element of demographic effects. Kaufmann (2005) gives a more general picture of the effects of declining populations. He sees population decline as being caused by de-industrialisation, suburbanisation and demographic change. In this view, substitution between the factors of production is limited as raising children is part of the formation of human capital in a society. In certain segments of the labour market, a higher quality of human capital might offset the impact of fewer children, but not across the entire economy. His main argument is the interconnectedness of the effects of population decline: with less competition and less in-migration, a shrinking population might turn complacent and a pessimistic mentality could prevail. Each individual effect of a declining population (e.g., lower population, lower housing prices, stagnation of domestic demand, imbalanced public budgets) might be countered, but the interconnectedness of effects constitutes a problem, especially as a declining population also reduces the adaptability of a society. For Kaufmann, the slumpish growth of the French economy in the long nineteenth century and the first half of the twentieth century, with stagnation in housing construction, rental price controls, prohibition of layoffs and capital flight, is an example of such a weakened society that only rejuvenated after a successful implementation of family policies. An interesting aspect of Kaufmann's

concept is that he not only concedes that both declining populations and its effects are social processes and possible arenas for coping with demographic change, but that he also postulates that the crucial factor might be the adaptability of a society, which may be influenced by population dynamics.

Besides these more general concepts in economics and sociology of the effects of demographic change, I want to sketch a few areas of interdisciplinary research on the effects of demographic change, which move between disciplines.

One such area is the "Easterlin effect" (Pampel and Peters 1995; Easterlin 1990). According to Easterlin, cohort size is connected with cyclical processes of competition, wages, unemployment rates, values and fertility rates. Despite the face plausibility of a drop, for instance, in unemployment rates of East German youth after the job entry of the latest baby bust generation, empirical research shows that volumes do not automatically translate into prices and equilibria. One current counterexample is Spain. In spite of a declining proportion of the population being in labour market entry age, youth unemployment rates have skyrocketed there.

Another interdisciplinary area of research is whether a demographic decline in the number of schoolchildren translates into lower expenditures for schools (Poterba 1997; Baum and Seitz, 2003; Rattsø and Sørensen, 2010). Most research shows that in many cases there are either no cost-saving effects or that the cost savings are less extensive than could be expected from a mere shift in demand. Obviously the different ways that societies cope with demographic change influence whether there are 'demographic dividends' and what levels they reach.

A rather broad area of interdisciplinary research is organisational demography (Pfeffer 1983; Carroll et al. 2000). The crucial variable for organisational demography is not the age structure of a society or the decline or growth of a national population but the respective parameters of an organisation. The employees of an organisation have both an age and cohort structure; the staff of an organisation may also grow or decline in number. Contrary to societies, organisations are founded or dissolved quite often. These processes are analysed by organisational ecology (Carrol 1984; Hannan and Freeman 1993). The main results of this research show that both rapidly growing as well as shrinking organisations are prone to difficulties: rapidly growing organisations tend to develop very imbalanced cohort sizes that create problems for career development, cooperation and innovativeness later on. Shrinking organisations more often than others either accumulate higher wage bills (if seniority rules apply) or incur diminished dynamics (as the renewal rate of the organisation is reduced).

The short review of the literature has shown that, as opposed to what popular scientific publications would have us believe (Birg 2006; Hondrich 2007; Butterwegge 2006), demographic change is neither seen as a single determinant of societal effects nor as a completely irrelevant factor. Most research, especially on the effects of a declining population, draws attention to the challenges constituted by demographic changes, the detrimental potential of which depends on the coping of society. We will therefore develop elements of a coping theory of society in the following parts of this chapter.

3.2 Demographic Ways of Coping with Demographic Change

First, we want to look at demographic ways of countering demographic change. To do so, we have to consider fertility, mortality and migration.

Most popular are strategies to influence fertility. As was discussed in Chap. 2, reasons for a fertility rate below the reproduction level are manifold. Without going into too much detail, one approach to coping is by means of state expenditure for families (this can take the form of either child allowances, tax reductions, maternity leave or childcare provisions). The OECD countries differ with respect to their expenditure in this area. In general, there is a correlation of medium strength between state family expenditures and the total fertility rate (D'Addio and d'Ercole 2005). Simulations for Japan, for instance, which currently does not invest much in family policies at all, suggest that a rise in expenditure could raise the total fertility rate from 1.3 to 2.0. In the case of countries with already (comparatively) high family expenditures, such as Germany, simulations show that this instrument cannot increase the fertility rate any further. Besides this quantitative logic, there is a qualitative logic: all 'familialistic' countries that originally operated on a strong breadwinner model, such as Germany, Italy, Japan or Spain, face the challenge that a rise in the fertility rate can only be achieved by implementing effective anti-discrimination policies for gender equality, which takes time (Billari 2008; Holthus 2011).

There is not much debate on the possibilities of influencing mortality to alleviate demographic change. One cause for the absence of such a debate is that in nearly all countries rising life expectancy is already reducing the numeric effects of low fertility rates, thus reducing shrinkage. This effect could paradoxically reduce the detrimental effects of demographic ageing as well if it comes with longer 'healthy years'. Empirical data in Germany and Poland (Chap. 2) show that this is indeed happening. Current procedures to classify age groups in terms of 'age burdens', 'demographic dividends' and so forth tend to obscure this effect. For one, it is unclear whether a person in retirement is not productive for society anymore. Secondly, and even more importantly, in the case of an increase of healthy years, the markers 'age 60' or 'age 65' (to take just two common age markers) change their potential meaning from 'too old to substantially contribute' to 'still being a productive pillar of the work society'. The legal raising of the retirement age and the actual trend toward later retirement socially acknowledges this development (Sackmann 2008).

Migration is already an important constituent of population dynamics. Both in Germany and Poland the migration balance (and its dynamic) is just as important as birth rates in explaining the difference between a stagnating and a declining population. Currently, a negative migration balance (a lower number of immigrants in relation to out-migrants) can be the result of migration barriers and/or unattractiveness of the destination.

Migration barriers are the result of nation states regulating immigration. Davoudi et al. (2010) contrast two scenarios for Europe. In the scenario "silver

century", immigration is sharply restricted, which leads to a rapidly ageing and soon shrinking European population with a range of prospective negative effects. In the scenario "open borders", these effects are offset by immigration, which allows this world region to continue to bloom. Similarly, Coleman (2006) sees immigration as the main solution for low-fertility countries. His data show, both in Europe and the US, an increase in immigration between 1960 until 1988, a peak in 1992 and a highly volatile development afterwards. Political decisions to place stricter restrictions on immigration were a major cause of the demographic slump in Germany in the first decade of the twenty-first century (Kemper 2011). Similar (demographically counterproductive) regulations were strengthened in most European countries and the US. In most countries, there is an open debate on how to combine integration efforts and diversity within nation states. Whereas traditional immigration countries, such as the US, and rather new immigration states, like Germany, have developed routines in coping with immigration, some states, such Japan and China, mainly have tried to avoid immigration entirely. For the latter, offsetting low fertility by encouraging immigration is still a far step from current reality, as their very complicated and restrictive procedures of selective immigration policy show (Vogt 2011).

Whereas migration barriers are instruments mainly of the nation state, unattractiveness of destination applies to both regions and nation states. In Germany, for instance, there exists a pattern according to which the cities are regaining attractiveness as places of residence while the suburban areas have been attractive all along and peripheral areas, especially in the economically weak parts of the country, are hit by outmigration and extremely low immigration. Is this a pattern of regional polarisation that follows the rules of the game of the second wave of globalisation since 1980? The literature on "global cities" would underline such an interpretation, but is there a homogeneous periphery to complement it that could be termed "global countryside"? Woods (2007) theoretically and empirically argues that so far there exists no real "global countryside". We can postulate an ideal type of such a global countryside with homogenising tendencies towards commodification, concentration, migration, tourism, non-national property, discourses, social polarisation and political alienation. But Woods also insists on their heterogeneity whereby some regional countrysides have a growing potential to shift the new flows of tourists, migrants and entrepreneurs in their favour, whereas others do not have the same opportunity. Woods fails to consider population movements related to (tertiary) education, which has increasingly become a driver of migration regionally and internationally and seems to foster urban attractiveness at the expense of peripheral remoteness.

In sum, investments in children (and their education), health and immigration (and integration of immigrants) are possible ways of coping with demographic change. In the case of all three strategies, it depends on the context whether they are viable options. As investment strategies, the time horizon for these demographic strategies to yield results is more a matter of decades than of immediate returns.

3.3 Non-demographic Ways of Coping with Demographic Change

Many people think that labelling a problem as a demographic one implies that the solution also has to be sought in changing the demographic situation. However, the relation between 'causes' and 'interventions' is not necessarily a direct one. Whenever the causes are either hard to influence or the effects of the intervention take too long, a societal unit can only concentrate on coping with the problem irrespective of its causes. For instance, if a society wants to come to terms with natural disasters, it is not feasible to prevent earthquakes, floods, volcanic eruptions or tsunamis from happening. Far more important is to enhance the level of resilience to be able to effectively handle the consequences of a disaster and—even more importantly—to socially prevent such consequences from occurring by investing in the ability to adapt to situations, for example, by building houses that survive an earthquake without collapsing.

Some demographic problems can be solved by demographic means, that is, by influencing fertility, mortality or migration. Quite often, however, these processes are hard to change, and sometimes it takes a long time to produce significant effects. Irrespective of whether a demographic or non-demographic approach is adopted in tackling demographic problems, the effects of demographic change are of major interest as existing institutional procedures might collide with demographic developments, resulting in second-order problems that might be worse than the original demographic problem. These second order problems can be manifold: for instance, a rise in longevity might be not a problem in an age-conscious society, whereas a rise in longevity occurring in a society that prefers early retirement may endanger the whole pension system.

Since non-demographic coping can occur in all parts of society, the empirical analyses will concentrate on some obvious fields: educational institutions and their personnel policy in coping with smaller birth cohorts, and municipalities attempting to come to terms with shrinkage.

Before analysing empirical problems and problem solving in detail, it is useful to have an idea of the directions in which demographic problems can be solved by non-demographic means. As a heuristic instrument, we have developed a theoretical tool that encompasses four components: (a) 'problem', (b) coping, (c) institutions and (d) mentalities. Coping theory was originally developed in social psychology, but for decades both sociology and psychology have worked with similar key concepts (Greve and Strobl 2004), which have to be adapted to the particular research context. As the demographic problems we are interested in are of a social nature, we will focus more on organisational and institutional levels than on individual experience and action.

3.3.1 Problem Framing

A prerequisite of coping is that there is a *problem* to be dealt with. In social sciences there is a discussion about the nature of problems. We take a realistic approach in

that we assume that there are real components of problems caused by demographic change. To analyse the nature of a specific demographic problem, one has to concentrate on three elements: (a) resources, (b) aspirations and (c) the framing of the problem. At the heart of most social problems there is a discrepancy between the resources a social unit can use and the aspirations it develops.[1]

In the line of social constructivist thought (Spector and Kitsuse 1973), a problem is a social interpretation of an unknown reality that some groups in society successfully define by convincing the public that there is a problem to be dealt with. Without doubt, the interpretation, the framing of a problem, is an important feature of social problems. However, it is not convincing that all social problems are just communication acts. Whereas accounts of meeting extraterrestrials and discussions about how to avert the detrimental effects they cause (Schetsche 1998) are only discursive products, the problems of demographic shrinkage are real challenges that may indeed have a negative impact on society. 'Real' in this context does not claim that there is just one reality out there, of which a scientist can make a perfect picture. It simply says that within a range of interpretations of real processes there are some interpretations that we can claim to be more accurate than others by scientific standards. Such a realistic view of social problems is connected with a pragmatic view of the social sciences (see Mead 1929): among the procedures suggested to solve a problem, we can say that, by scientific standards, some suggestions are more likely to work than others.

If a social problem is constituted by a discrepancy between the resources at hand and the aspirations and expectations the social unit has developed, the problem will be 'caused' either by a drop in resources or by a rise in aspirations. In his classic study "Children of the Great Depression" (Elder 1999; Elder and Caspi 1990), the social problem that was relevant to a large part of a generation of Americans in the 1930s was caused by a drop in resources: an economic crisis led to a loss of jobs, income and assets. What are resources in the case of demographic change, especially shrinkage? Kaufmann (2005) states that population is a basic form of societal resources, which he calls "human capability" to suggest that a large range of social production and reproduction rests on the care and work humans perform and the ideas that they bring forth. For a general theory of coping with demographic change, the characterisation of resources in reference to a demographic problem as "human capability" seems to be too broad at times. In a number of cases, a loss of resources can be specified as the existence of fewer people, resulting in a decline in demand; in other cases, it can mean a drop in the available number of potential co-workers or collaborators; or from the perspective of a taxing regime, fewer people in a political unit can cause less revenue; or in democracies fewer people may constitute a decline in certain groups of voters and thus in the weight of their preferences; or in familialistic regimes fewer children may also mean a loss of potential caregivers to the elderly. Common to the resource nature of demographic problems is that the

[1] We prefer the more concrete formulation of a discrepancy of resources and aspirations, as Greve and Strobl's (2004) more general formula of a problem as being an is-ought discrepancy seems to be overgeneralized, especially since "is" constitutes a rather opaque term.

availability of a certain number of people and/or the existence of certain categories of people are important for the proceedings of a social unit.

If an imbalance of resources and aspirations is at the heart of a social problem, there is also the possibility that a rise in expectations can trigger a social problem. Tocqueville (2011), in his famous study on the French revolution 1789, showed that the hardship of the French people in the last decades of the eighteenth century was not extraordinarily high (compared with other European societies at that time). Instead, the rise in wealth and income in the decades before the revolution had influenced expectations and aspirations that were frustrated in the last years before the revolution when growth rates turned negative. In a similar line of thought, Durkheim was able to show that a downturn after boom years caused anomic aspirations constituting social problems that were later labelled as relative deprivation. Are there increasing aspirations connected with demographic change (especially shrinkage) that are strong predictors? In demographic terms this does not seem to be plausible as population numbers do not have a strong "ought" component that could constitute aspirations. For instance, there is neither a strong social norm nor a strong desire underlying the often-quoted replacement level of 2.1 children (in present modern societies) that could constitute a very strong aspiration, the violation of which would cause problems. "Human beings are not motivated by the population-resources ratio even when they know about it" (Davis 1963, p. 351). Whereas people do not have strong feelings about total fertility rates, they have strong emotions on whether they want to raise a family and how large the family should be. It is a matter of political processes whether these 'private' desires for a particular number of children are aggregated into a public discourse on aspirations of societies.

Empirically, non-demographic aspirations have also been important for the constitution of demographic problems insofar as, in the East German case for instance, aspirations on non-demographic grounds might be raised and subsequently not fulfilled, which coincidentally occurred parallel to a loss of resources for demographic reasons. In the 1990s in East Germany, aspirations for quick results of the transition from communism to democratic market economies were higher than in other transition countries (Sackmann 2010). In such a constellation, a 'demographic problem' emerges as the result of aspirational dynamics as well.

The perception of a problem requires an interpretation, a subjective definition of the situation accordingly. We call the perception of a problem its framing. Based on the work of the classic interpretative sociology of Thomas, Schütz and Goffman, current theoretical work by Esser (2001; 2010) and Kroneberg (2011) tries to formalise this concept. In this book, we are not so much interested in the formal adaptation of these models to define demographic problems (see Rademacher 2013) but in the process of framing that takes place in these instances.

Each act of framing includes a simplification of perception to reduce complexity. This simplification usually refers to given models and types already known to actors. In general, frames are shorthand typifications of reality. One aspect of such a frame is how collective actors such as organisations or municipalities frame an issue. Collective actors use routines to observe their environment; they use schemes to evaluate changes in it. For instance, a commercial organisation will register its

monthly sales volume to see whether it is growing or losing ground. In Chap. 5, we will see which indicators municipalities use to register environmental change and how this is related to demographic discourses.

Formal theories of framing concentrate on the specificities of mixed-mode rationalities and their logic. When Esser (1996a) first applied the concept of framing to processes of defining the situation, he focussed on public conflict over the frames to be applied to the situation in question. We want to specify this for demographic problems. If demographic change is a new development in a society (which is the case in most shrinking countries), then existing frames of the situation will be challenged. Since we have defined a problem as a discrepancy between resources and aspirations, the framing of the demographic problem can focus on two elements and their combinations: on resources, on aspirations, on both or on neither. In current advanced societies, from which we draw our examples, some frames are more widespread than others. In the following, we sketch a growth frame as an example of a resource-centred frame of demographic problems; a demographisation frame as an example of an aspiration-centred frame of demographic problems; a realistic frame as a mixed observation of resources and aspirations; and a denial frame, which ignores both resources and aspirations.

The Growth Frame As resources might dwindle in a demographic problem situation, some actors are interested in remedying the situation as quickly as possible. In a number of regions and municipalities, we find a frame that interprets a shrinking community as a community with an economic growth problem. Such a frame quite often accentuates growth potential more than demographic components, which might even be ignored. Farke (2005), for example, shows that the West German city of Salzgitter accepts federal funding for shrinking cities but tries to avoid the image of a shrinking city as it adheres to an economic growth frame. A radical growth frame might even ignore the consequences of a decline in resources. The Japanese government using public debt to finance its public debt service within a frame of inciting growth by stimulus packages is an extreme instance of this frame—also driven by the horror of powerful groups over losing support by admitting that resources are already lost.

The Demographisation Frame In situations where non-demographic aspirations have been raised, sometimes to high levels, but cannot be fulfilled in times of crisis, the public can be convinced that demography is the reason why retrenchment must be accepted. A demographic frame is used to lower aspirations. The wave of demographic discourse in Germany at the end of the 1990s is an example of such demographisation framing. An oversupply of housing, caused by excessive subsidies and aspirations, was attributed to demographic shrinkage. A demographisation frame is not uncommon in politicising social problems since it fulfils some of the criteria that must be given to enable reframing a social problem as a political problem (Cobb and Elder 1972). The likelihood of defining a social problem as a political problem is higher the broader the scope of the problem, the easier it can be defined as socially important, the better it can be defined as being important because of its long-term consequences, the more it is characterised by a low degree of complexity,

and the closer it is related to previously set agendas. Particularly the combination of stressing long-term consequences and offering explanations of low complexity highlights the potential of demographisation as a frame for the politicisation of social problems. It gives powerful groups the opportunity to communicate the need to lower aspirations without raising questions as to the authorship of excessive aspirations or the non-demographic causes of crisis.

The Realistic Frame Not all social problems that are framed as demographic problems overestimate the influence of demography. Some framing simply refers to the demographically caused drop in resources. In the case of shrinkage, this is usually connected with a lowering of aspirations since the turn from a demographic growth regime to a demographic shrinkage regime is not without transaction costs. As framing is not necessarily connected to specific action plans, a realistic frame does not implicate whether this appraisal will result in a retrenchment response, a growth response or an innovative response.

The Denial Frame There is some debate in the literature as to whether a denial of a problem is a part of coping at all (Greve and Strobl 2004). For a radical social constructivist, a problem that is not subjectively defined or intersubjectively communicated is non-existent. Therefore non-perception dissipates the problem. But does ignorance solve problems? On the other hand, rationalist objectivists would insist that an actor who does not frame a problem will not develop a coping strategy at all. Hence such actors are limited to the irrational denial of the problem in question. We do not share either view. Demographic problems caused by a loss of demographic resources, which is the case in most social units hit by shrinkage, will not disappear if they are ignored. Even if this situation is attributed to fate or other out-of-hand frames, the loss of resources will be felt. On the other hand, in any social unit, at any point in time there are a vast number of social processes that could be highlighted as a social problem waiting to be solved. Any rational social unit will thus somehow prioritise which situations (marked by discrepancies of resources and aspirations) are framed as problems requiring attention and which situations (representing such discrepancies) are not (yet) framed in these terms. In this perspective, a denial frame is sometimes the result of another strong frame referring to other problems. The above-mentioned growth frame can be seen as one type of a denial frame accordingly.

3.3.2 Coping

The framing of a problem is just one element of coming to terms with a demographic problem. The act of *coping* is the next step in a coping theory of demographic change. We have defined a problem as a discrepancy between the resources of a social unit and its aspirations. “Coping consists of cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Folkman and Lazarus 1988, p. 310). Thus,

coping is a reaction to a perceived discrepancy of resources and aspirations. To develop a more general model of coping, it is useful to (a) discuss different levels of social units, (b) reflect on the logic of categorising types of coping, (c) illustrate the type of coping we call *expansion*, (d) illuminate the type of coping we refer to as *reduction* and (e) state more precisely what *threat rigidity* (Staw et al. 1981) could mean in coping. Coping theory is an interdisciplinary effort involving heterogeneous fields of research. We will refer to social-psychological literature, to organisational studies and to literature on the consequences of disasters. We will initially exclude any discussion of institutional effects in terms of macro-social structures, which will be added once we get a firm grip on what is meant by coping as a form of meaningful action.

Original work on coping theory was mainly done by social psychologists who focused on the level of the individual. It is not uncommon in the literature to draw analogical conclusions from the individual level to the level of organisations. This is not flawed per se as these two units of social action share a number of attributes, such as decision making, capability for action and reflection, a definite beginning (birth/foundation) and a limited duration. Since the overlap is large enough, some analogies can be drawn. However, we see also a major difference between these levels of social action, which is mainly the result of the logic of institutions. We will discuss the importance of this difference later.

What is the logic of categorising types of coping? In early behaviourist theory, informed by animal experiments, a positive or negative stimulus provoked a response. Modern coping theory can be traced back to a social behaviourist critique of these deterministic models. Coping is seen as a response mediated by the definition of the situation or, in Lazarus' terms, by the "appraisal" of aspirations and resources. Since modern society sees itself as an activist meritocratic society, the preferred mode of coping is solving the problem. After checking the importance of an issue and, most importantly, evaluating the resources available to solve a problem, a "problem-focused form" (Folkman and Lazarus 1988, p. 310) is chosen if the situation is appraised as amenable to change. If the situation is appraised as unchangeable, a second type of coping is chosen: an "emotion-focused form" (Folkman and Lazarus 1988) that tries to regulate distress.

Whereas mainstream social psychology stresses active problem solving, life course psychologist Brandtstädter and his collaborators have underlined the importance of seemingly passive complacency. For them, coping is either "assimilative", which means changing the situation in a direction that is more in accordance with one's aspirations, or "accommodative", which means to accept the situation by re-adapting one's aspirations (Greve and Brandtstädter 1994). Brandtstädter's positive evaluation of accommodative coping is not a preference for fatalistic world views; its cause is more to stress that a considerable part of the social world is not in our control, but people still are capable of actively adapting by re-adjusting their aspirations. While being sceptical towards an easy activist paradigm of life management, the Brandtstädter team underlines the potential of non-intentional action and reflection to counter distress (Brandtstädter and Rothermund 2002).

Whereas literature in social psychology has developed a logic of categorising coping strategies, influential literature in organisational studies has proceeded more empirically (but also with some normative undertones). Boyne (2006) labels "retrenchment", "repositioning" and "reorganisation" as possible ways for organisations to counter a turnaround situation (his equivalent term for a declining organisation). A turnaround situation in this view is defined as a longer (2–4 years) period during which an organisation achieves its aims only below an acceptable level. Public services, which he focuses on, are viewed as private organisations with blocked response strategies. As retrenchment and repositioning are not available options for public services, only reorganisation is important as a possible counter-strategy. (In our empirical data analysis, we will later show that this diagnosis is only appropriate for the cases that Boyne reviews). Staw et al. (1981) identify "threat rigidity" as a frequent type of coping, which they characterised as maladaptive. In their view, environmental change always requires a coping strategy that should be oriented by more than control and efficiency.

Typologies of coping have also been developed in the field of disaster research, which for a long time existed on the fringes of sociology but has become more prominent in recent years. Kreps et al. (2006) highlight findings from empirical research according to which traditional models of command and control in response to disasters failed to provide effective relief as opposed to a flexible resource coordination model. Improvisation by well-prepared communities is important in models of the latter kind, which have recently also been called models of social resilience (Lorenz 2010). The idea in this case is that self-organisation and the capacity to organise self-help are decisive. In contrast to communities and societies of the resilient type, disaster research has also provided a typology of societies on their way to disaster-proneness (Dombrowsky 1995). Disasters are seen as the result of a series of failures along an interaction chain. Disaster is a social disaster insofar as response strategies have failed as a result of an accumulation of the destructive forces related to a certain division of labour (Geenen 1995). If more and more class divisions form, ruling groups are more frequently inclined to offer empty promises instead of actual achievements (Clausen 1994). If reform options are not adopted, societies become more vulnerable to disaster. As a result, they are unable to mobilise sufficient cooperation in situations of crisis.

After this short review of literature on coping in social psychology, organisation studies and disaster research, we want to combine these approaches. In our theory of coping with demographic change, we differentiate four types, which roughly correspond to the types of frames of problems that we introduced above. There is some relation between the frame and type of coping action chosen, but it is not a perfect fit as actors can follow different frames and strategies of coping. These four types of coping we call expansion, reduction, reorganisation and threat rigidity. They correspond to ways resources are acquired (expansion), to ways aspirations are set (reduction), to ways not to change things (threat rigidity) and to ways to reshape the organisation as an actor (reorganisation).

Expansion Since demographic change in the form of declining population numbers is connected with a drop in resources in many circumstances, expansion is a type of coping that tries to regain resources by shifting the focus to new areas of activity. In terms of organisational studies, this strategy is called repositioning as the focus of market activities is changed by countering declining demand for one product/service by offering another product/service. Expansive coping strategies are usually oriented towards growth and innovation (Boyne 2006, p. 379). To give just one example related to demographic development, a kindergarten confronted with a drop in demand for preschool due to a declining number of children can react in the form of expansion by additionally offering childcare services to the youngest children. In terms of social psychology, an expansion strategy would correspond to assimilation; the outer world is transformed by additional activities. The problem is addressed by taking action to change the situation in the direction desired (Greve and Brandtstädter 1994, p. 57). Usually this direction is motivated by self-efficiency and self-cultivation (Brandtstädter and Rothermund 2002, p. 121). The usual model implies problem-focussed coping: a plan is set to tackle the problem, followed by a reappraisal after activities have successfully changed the emotional mood (Folkman and Lazarus 1988). In terms of disaster sociology, an expansion strategy would correlate with emergent activities. This offers an add-on to an over-rationalistic approach: some expansions are not achieved by a master plan but in an enabling process. Disaster research shows that the most successful help is not achieved by deploying big professional rescue teams but by emergent voluntary activities at the locality in question (Poteyeva et al. 2006). In conclusion, one could say that the coping strategy of expansion aims at re-equilibrating the imbalance of resources and aspirations by regaining resources. This can be achieved either by finding new fields of activity, by formulating a plan on how to tackle the problem, which is then re-evaluated later on, or by improvising collectively to protect against all hazards to come.

Reduction Demographic change in the form of decreasing numbers is accompanied by aspirations that cannot be fulfilled to the same degree as before. Reduction is a type of coping that tries to readapt aspirations to the level of current resources. In organisational studies, this strategy is usually pursued by closing down units, by laying off employees or by cutting back expenditures in other ways. This can also reduce the spectrum of activities offered. In terms of social psychology, a reduction strategy would correspond to accommodation. This line of research stresses that this form of coping can be unintentional. As a process of disengagement, it preserves the identity of the social unit by maintaining self-esteem through adapting aspirations to available resources. Aims and future scenarios are actively recalibrated (Greve and Brandtstädter 1994). In disaster research, adaptation would correspond to a reduction of resource dependence (Lorenz 2010). A higher diversity of structures and ecological variance reduces the vulnerability of organisations and societies. It is important to note that reduction with respect to identity is an element of flexibility. Only if a social unit can switch between parts of its identity (including departing from former elements thereof) is it able to reconnect the past with the present in

formulating appropriate goals. So in general, the coping strategy of reduction tries to regain agency in the case of demographic decline by adapting aspirations to the new situation. This strategy can either include reductions in the number and kind of activities, a preservation of identity by disengagement (switch of identity), or it can involve an anticipatory component in that it reduces resource dependence in a crisis situation by cultivating a diversity of structures and identities that can be used within the social unit.

Reorganisation This type of coping is only part of the coping strategies of organisations and societies. Reorganisation implies that there is more than one person involved (which has no parallel in standard social psychology models) and that there is enough time for reorganisation to have positive effects (which is usually not given in case of disaster). As a coping strategy, reorganisation is either a replacement of persons in positions or a change of the formal structure of positions. The organisational studies literature mentions a replacement of persons in positions as the most frequent coping strategy aimed at turnarounds, both for the coping strategy of reorganisation and for all coping strategies by public administrations (Boyne 2006). One could even say that the idea of democracy mainly rests on creating opportunities for reorganisation since each election can result in the replacement of the ruling personnel. Further implications of possible changes in the division of labour, which might also be seen as a kind of reorganisation, are discussed later in this chapter under the heading of institutional responses.

Threat Rigidity It is unclear whether this is a genuine empirical type of coping. For analytical purposes, however, it might be useful to have an extreme type of non-coping, especially as there are already models to describe such behaviour. A general characterisation of the form of coping referred to as threat rigidity is that nothing helpful is done to restore the equilibrium of resources and aspirations. Neither resources nor aspirations are adapted. As disequilibria between resources and aspirations are normal, one could even say a large part of human cultural formation is due to disequilibria between resources and aspirations. Therefore, one has to specify when such disequilibria can be termed threat rigidity and when not. This requires a time dimension, a criterion for the degree of imbalance and a criterion for the time dynamic. For the time dimension, the criterion of duration is important. Boyne (2006), for instance, defines a state of imbalance lasting 2–4 years as constituting a crisis (for an organisation). It seems that societies can endure even longer periods of hardship as they are less threatened by extinction. The degree of imbalance is easiest to define if there exist strict rules for the formal dissolution of a social unit. Insolvency would be an example of a clear-cut large discrepancy between aspirations and resources. For all other forms of social units, a time dynamic of either decreasing motivation (e.g., all efforts to regain resources fail and therefore self-efficacy is reduced) or an increasing threat (e.g., ever larger amounts of the budget have to be used to service increasing debts) is a possible operationalisation of a large discrepancy of aspirations and resources.

Influential literature on coping in social psychology rejects the concept of threat rigidity (Folkman and Lazarus 1988, p. 309). Whereas in animal behaviour the

alternatives available to an ape threatened by a lion is either attack (in our terminology expansion), escape (in our terminology reduction) or non-reaction (and being eaten) (in our terminology threat rigidity), the case of human coping is less clear as a threat is usually subject to appraisal. Anxiety, a perceived threat, does not necessarily lead to non-reaction. In organisational studies, Staw et al. (1981) have popularised the concept of "threat rigidity". The authors do not specify what a threat is (and why it should determine a specific response in the form of rigidity), so we will discuss this later. However, they do specify what makes organisations more rigid in situations of threat. On the one hand, organisations become more uniform and groupthink prevails. On the other hand, power is more concentrated as procedures are re-centralised, formalised and standardised. In disaster sociology, rigidity itself is seen as a major characteristic of a disaster. A disaster is often seen as a social event involving some perception of evil magic that might paralyse those affected (Clausen 1994). More concrete, and of greater importance in our context, certain types of coping are prone to threat rigidity. If there is one central unit responsible for coping with disasters, as was the case in New York in 2001, for instance, the destruction of this unit disorganises the opportunity structure for cooperation for a long, valuable period of time (Poteyeva et al. 2006; Britton 2006). In this context, rigidity is both part and a result of an institutional structure. To summarise the characteristics of threat rigidity, one can say that it consists either (a) of non-reaction in situations requiring resource expansion or aspiration reduction or (b) of failed strategies of expansion or reduction that accumulate and result in a higher likelihood of non-reaction. Such non-reaction can be the result of failed coping strategies, of the organisational dynamics of groupthink and centralisation, or of institutional settings that increase the vulnerability of organisations and societies.

In the discussion of the coping strategy of threat rigidity, it becomes clear that rigidity usually is not the result of biological fear, but more often the result of a certain kind of institutional structure. To take the example of 9/11 in New York, coordination deficiencies after the terrorist attack were not the result of anxiety but of the institutional structure of disaster control, which was vulnerable because it was centralised.

3.3.3 Institution

The institutional structure of coping is the third important ingredient in a theory of coping with demographic change and of equal importance to the nature of the problem and the coping strategy. Drawing an analogy, one could say that institutions are for society what personality structure is for the individual: they form and orient coping strategies, and they are also important objects of analysis for a sociology of coping with demographic change.

There are different concepts of institutions in social sciences. In line with Lepsius (1995), we define an institution as a programme of rules guiding and controlling action by resting on an idea of a legitimate order. In the process of institutionalisa-

tion, the guiding idea is made more concrete, the context of action is differentiated, positive and negative sanctions are introduced. An institution restricts the range of possible action in that some paths are either outright prohibited or are subject to sanctions of some lower degree. At the same time institutions enable a specific range of action by granting such action legitimate status or by encouraging such action through positive sanctions.

During the last century, modern societies have developed a characteristic kind of institutional structure that achieves both adaptability and similarity. For the purpose of this book, it should suffice to trace only the grand lines of this structure while only going into a bit more detail with respect to labour market flexibility and division of labour. We will refrain from elaborating all the differentiations of variation, deviance or the different levels of the general institutional structure of modern societies here.

The adaptability of societies relies on three major functional systems (Parsons 1971). As coping is always related to adaptability, those systems are relevant to our context. In the political system, democratic orders allow a periodic reorganisation of the ruling elites. Voting against existing structures and reforming them are normal features of modern democratic systems. At the same time, democracies enable people to cooperate toward common goals by openly discussing possible alternatives and by giving space for political movements, parties and non-governmental organisations to build power in a competitive environment. In the economic system, market orders regulate the periodic reorganisation of collective actors, and thus the reshuffling of power structures, by providing mechanisms of market exit (e.g., insolvency) and entry (e.g., establishment of a new business). Information in the form of prices bears the potential for firms to specialise in production and for consumers to select according to individual preferences. Knowledge also follows a path of high adaptability as the science system allows the critique of all forms of current knowledge and hence continual revision of the current state of knowledge. A wide array of theories, methods and scientifically collected empirical data enables science to reorient its content in a rational way.

It would be misleading to see the modern institutional structure only as a way of raising the level of innovation and adaptability (despite the fact that in comparison to former societies the rate of permanent innovation has increased). Neoinstitutionalist theory highlights that the structures that allow permanent change at the same time increase isomorphic tendencies in society (DiMaggio and Powell 1983). Political systems with a democratic order imply the rule of law. This produces coercive isomorphism as some actions are prohibited and some are privileged. Economic systems in the form of market orders do not coerce people in this way. However, the high degree of uncertainty in this field makes it more likely that organisations (and people) model their behaviour after successful competitors. By this mimetic isomorphism organisations become more alike. Within the system of science, groups of professionals are educated. As this takes a number of years, a high degree of internalisation of values, norms and practices is achieved, which results in normative isomorphism. Normative isomorphism is increased by the fact that scientific

disciplines, as well as certain think tanks, produce epistemic orders that preform cognitive models of the world.

The explicated modern institutional order is more an ideal type of how given structures are generally shaped in the innovative and isomorphic structures of modern society. If one proceeds to analyse certain organisational fields, in this book education and public administration, one has to specify the main features of these fields. For analytical purposes, we want to pinpoint what labour market flexibility and division of labour means with respect to demographic change. These two dimensions seem to be important both for the educational system and for public administration. Large parts of the education sector in most countries in the world are publicly organised. In a situation where population decline results in a declining number of pupils, organisations facing the need to cope with this development cannot turn to a market reaction in the form of adapting the price of education since large parts of the educational system either do not charge prices at all or at least do not charge prices that cover costs. Instead labour market flexibility is a possible alternative for organisations to adapt to this situation and reduce costs. A similar logic applies to public administration. Let us take a closer look at labour markets and division of labour.

Labour 'markets' are a special kind of market insofar as a number of features are quite different from markets for other kinds of goods such as bananas or cars (Solow 1990). The price of labour (wages and salaries) is usually not as flexible as mathematical models of labour markets would suggest. Wages are more sticky. In times of crisis, they are rarely reduced in nominal terms; in times of good business, they are raised less than in the case of more price-sensitive goods. Moreover, labour market prices are strongly influenced by organisations in the form of unions, which try to set wages for groups of workers and not for individual workers. As a result, the price flexibility of labour markets is reduced. A second feature making labour markets special markets is that work contracts usually not only regulate the exchange of certain services, but they also constitute a cooperative endeavour, which usually lasts for some time. Neo-modern labour market theories are full of accounts of what cooperation means and why it results in wages above equilibrium (implying that it produces unemployment as an unintended side effect). For instance, efficiency wage theories state that workers who keep their position for a longer period of time are more efficient than new workers (Raff and Summers 1987), or insider-outsider theories (Lindbeck and Snower 1988) claim that the exchange of workers implies transaction costs. What is more, long-term employees might harass new employees or refuse to educate them sufficiently for their new jobs if they are dissatisfied. In consequence, employers rationally opt to enter labour contracts to reduce labour market price flexibility and personnel turnover since they rely on cooperative work relations between workers and between employers and employees. A third distinct feature of labour markets is the meaning given to the activity involved in the exchange. The social position of being in paid employment and the content of work are important elements in the identity of individuals. In a society centred on dependent labour where most citizens do not possess easy access to either subsistence

production or self-employment, meaningful employment is a privileged value held by many members of society.

All three of these distinctive features of the labour market provide potential avenues for intervention and regulation. Historically more precisely, the idea of a pure labour market with fluctuating prices, easily terminated contracts and unspecific aims of cooperation is so far removed from reality that it took centuries to surface as an idea (Polanyi 1957). At present, labour markets are institutionalised everywhere in some way or another as a part of the legal fabric of society. This legal order of the labour market (and its informal practice) always has to strike a compromise between guiding legitimate ideas and contrasting interests.

In the following three subchapters, we want to specify the causal relation between labour markets and a declining population. For this purpose, we want to proceed in three steps: (a) in the first step, we will analyse how and why public labour markets, more than other labour markets, are prone to inflexibility (and what possibilities are given under this condition to react to a declining population); (b) in the second step, peculiarities of professions and civil servants will be discussed in relation to demographic change; and (c) in the final step, we will discuss Durk-heim's argument of a general correlation between demographic change and the division of labour.

3.3.3.1 Do Public Labour Markets Lack Flexibility?

One element of demographic change in relation to institutional structures is that a declining population implicates a shift in demand. Fewer children constitute less demand for teachers, and more elderly increase the demand for the care professions. Besides a discussion of whether adapting demand is a perfect strategy for coping with demographic change, we want to first analyse why shifts in demand in labour markets do not smoothly translate into shifts in the workforce accordingly. This is usually discussed under the heading of labour market flexibility.

As we have already seen, labour markets are not homogenous institutional structures. Both transaction cost theory sensu Williamson and segmentation theory analytically distinguish an internal from an external labour market. An external labour market resembles most the classic economic idea of a labour *market*. In these spot markets, a shift in demand will translate into changes in wages and job placements. Fewer children would result in lower wages and fewer job opportunities for teachers if the labour market for teachers were an external labour market.

In most present-day labour markets, we find some variant of an internal labour market. In an internal labour market, employees have a rather general labour contract that lasts for a longer period of time. Employees are part of an organisation that collectively produces goods or services. In which instances do employers prefer internal labour markets? Williamson (1985; Williamson et al. 1975) states three conditions: the more task-specific the labour is, the higher the degree of intangible output, and the higher the degree of uncertainty. As opposed to an orange picker (a classic example of an external labour market), not everybody can be a teacher of Polish history (task-specific) and we cannot easily observe whether his students

actually did learn the right things (intangible outcomes). Under such conditions it is useful for a school to employ teachers for a longer period of time and create a kind of internal labour market. Segmentation theories (Piore 1978; Kopycka 2013) add two explanations to transaction cost theories of internal labour markets: (1) employers are more powerful if they can differentiate workers, and (2) their actions might be guided by norms. The latter is more than true as extensive labour market legislation and labour law decisions constitute a normative framework within which employers (and employees) act.

There is some discussion in the literature as to whether the criterion "uncertainty" is a strong indicator for rational internal labour markets (Picot et al. 2003; Winch 1998; Struck 2006). It is stressed that uncertainty in the form of high volatility might be pushing companies to externalise parts of their production or differentiate employees into a core group and more flexible peripheral production units.

Taking up these concepts of labour market segmentation, one would expect three possibilities for public sector labour markets to react to a declining population. If the responses in the public sector labour market were similar to what we commonly observe in external labour markets, we would expect a reduction of wages and/or redundancies in sectors with a drop in demand (*external labour market hypothesis*). If the responses in the public sector labour market were to follow the common pattern in internal labour markets, long-term labour market contracts would not be touched and there would be a hiring freeze or a reduction in hiring in sectors with a drop in demand (*internal labour market hypothesis*). If the public sector labour market were to combine the responses commonly found in the external and internal labour markets, long-term labour markets would remain untouched while hiring would turn to fixed-term contracts to raise flexibility by inducing high volatility (*dual labour market hypothesis*) (see Kopycka and Sackmann 2010). Generally, one would suppose the internal labour market hypothesis to be the most likely one as public sector labour markets are primarily internal labour markets. Some authors even argue that they are the archetype of an internal labour market (Henneberger 1997; Keller 1985). If this is correct, one would even expect that there are second-order problems arising from this constellation. If demand drops faster than internal labour market flexibility can react, production costs would rise and quality might drop as well. To take the example of fewer children referred to above, adaptation to demand would rely only on hiring fewer teachers (internal labour market). This might raise the costs of education per pupil and result in an older teacher workforce, which after some time might be less innovative as there is no influx of new colleagues (Sackmann and Bartl 2007).

3.3.3.2 Peculiarities of Public Sector Labour Markets: Professions and Civil Servants

Two types of employees, professionals and civil servants, are far more numerous in public labour markets than in other labour markets. It seems worthwhile to briefly sketch their relevance to coping with demographic change. Civil servants are char-

acterised by a special kind of labour contract, which is often in the form of lifelong employment, yet with more discretion on part of the employer to adjust the tasks to be fulfilled than under normal labour contracts. Important for coping with demographic change is also the particularity that they often have retirement benefit systems of their own. In general, one could say that a higher rate of civil servants restricts labour market flexibility to internal labour market flexibility. For the empirical studies of this book, civil servants are not of major importance as only a small minority of German employees in municipalities work on civil service contracts and the rate of civil servants is also generally very low in Poland (Bartl 2011).

Professions are characterised by a high degree of task specialisation and a low degree of tangible output. Due to these characteristics, it is plausible that they are quite often part of internal labour markets. At the same time, professions usually are rather independent social groups, which compete with each other (Abbott 1988). They seek to demonstrate expertise by solving difficult problems, rely on some set of professional ethics to regulate member behaviour, and mobilise state approval to license their job monopoly. Their weight in present societies is growing as they successfully participate in innovating society by combining their efforts with academic knowledge.

However, all professions are not alike. In education, semi-professions prevail (Parkin 1979; Kirkpatrick et al. 2005). As opposed to other professions such as doctors and lawyers, their prospects of self-employment are quite limited so that they have to come to terms with their main employer, the state. Some semi-professions, such as teachers in Germany and Poland, have been quite successful in establishing a near monopoly on jobs in school organisations. Even the heads of these organisations are usually teachers. A specific employee-friendly form of management, custodial management, dominates (Kopycka 2013). Other semi-professions, such as nursery school teachers in Germany, have been less successful in claiming monopolistic scientific competence in solving certain problems. So far, it seems unlikely that they will be successful in raising the bar for recruitment so as to require academic credentials, which is standard for this group in many other countries.

For semi-professions, not only their independent knowledge base is important, but also their capacity to organise in trade unions. Whereas teachers unions in Germany are restricted in their capacity to act as a collective force by being split into a number of separate professional organisations, their unionist stance in Poland is quite strong. The late communist regime even put into practice a so called Teachers Charter in the 1980s that codified a number of privileges that are usually part of contested contracts in other countries. This law was amended in the transformation period but never abolished (for a detailed analysis of the changes, see Kopycka 2013).

Since the 1980s, there has been a transnational movement against civil servants and professions in public sector employment that has tried to reinforce private personnel policy in public sector organisations under the banner of ‘new public management’. For the limited purpose of our book, it has to be stated that Germany lags far behind in implementing the principles of new public management. By contrast, Polish public policy reform has been much more influenced by new public manage-

ment. One piece of evidence for this is that Polish school heads have considerable discretion in hiring and firing school personnel.

Despite some things being in flux, it can be stated that in general demographic change constitutes a potential problem for public sector labour markets in Germany and Poland as both show a high likelihood of reacting to this challenge in ways associated with an internal labour market.

3.3.3.3 Demographic Change and the Division of Labour

Labour markets not only relate supply and demand by a price mechanism, they also organise forms of cooperation into a specific kind of division of labour. In the social sciences, there is a long tradition of relating demographic change to degrees of competition in demand for resources. In this vein, Malthus argued that large birth cohorts result in famine waves due to too many mouths to be fed. Much later, Easterlin (1990) stated that large cohorts are characterised by a high degree of competition, resulting in lower wages. Despite differences in theoretical and empirical background, approaches in the tradition of Malthus and Easterlin directly translate quantities into social processes. In this line of thought, some authors even explain Islamic and Hutu terrorism in terms of excessive population growth (Heinsohn 2008).

As opposed to these mechanistic approaches, the classical sociologist Emile Durkheim, in his first major work, stated that a quantitative process, the number of inhabitants in a society, might influence the division of labour of the population insofar as a higher degree of specialisation reduces competition.. Thus for Durkheim, the division of labour is an intervening variable, a possible coping mechanism, to come to terms with demographic change. An intensification of social life, which he perceives as a trigger for civilisation, can alleviate competitive forces: a soldier will usually not compete with a priest, an oculist not with a psychiatrist (to name just a few of Durkheim's examples). Later theoretical critique tried to re-translate Durkheim's mixture of a natural process (population growth) and a social response (division of labour) into a purely symbolic transaction: population dynamics are irrelevant, only the mechanisms of supply and demand are important (Rueschemeyer 1982). However, for a discussion of coping with demographic change, this overgeneralisation by Rueschemeyer is not helpful as it replaces the more specific concept of population dynamics with the rather general concept of a change in demand.

Empirical research by and large supports a correlation between the size (and interactivity) of a social unit and its division of labour. The share of administrative and specialist jobs increases in larger social units, whereas the share of managerial positions decreases (Kasarda 1974; Clarke 1982). Cross-cultural research illustrates that two threshold levels of 150–200 and 2000–3000 members are indices for social units to differentiate. However, size on its own is not as important as a cooperative effort for collective action (Feinman 2011). Division of labour is a way to process this interactivity.

Durkheim elaborated his theory mainly in view of a fast-growing society in the late nineteenth century. Can it be applied to a shrinking society as well? Organisational demography has compared growing with shrinking organisations. It has shown that the general correlation between division of labour and size holds; however, some professions grow and shrink proportionally with organisational growth and decline, whereas others grow quicker but shrink slower than others (Freeman and Hannan 1975). Observations of shrinking municipalities show that changes of social infrastructure are open processes: some parts compete with each other, others are even dropped completely. Similar incoherent observations can be made on the presence of professions in shrinking regions: some stay, whereas others disappear completely (Kersten et al. 2012).

For a model of the effects of demographic change on labour markets, it seems to be important to be precise concerning the level of the social unit in question. At present we are living in a world society characterised by a growing population with increasing interaction. Therefore structural forces in the global economy point to an increase in the division of labour (Münch 2011). At the same time, some nation states and a number of regions show decreasing populations. In this situation, decreasing the division of labour can serve to enhance the potential of the local economy and local public services. It has to be stressed that a lower degree of division of labour in general can be implemented in two forms: the division of labour can be shifted towards lower specialisation and more general tasks, or it may include innovative and more complex than specialised forms. To use an example from Durkheim, doctors in a thinly populated area may either turn to less specialisation, that is, become general practitioners instead of specialist doctors, or they can combine specialisations, for instance, an oculist who is also a psychiatrist might be more successful in a shrinking region than a specialist in only one profession.

A general hypothesis for analysing processes of coping with demographic change is that in a situation of a decreasing population, the likelihood of innovations in the direction of de-differentiation and multi-dimensional professionalisation increases (*division of labour hypothesis*).

3.3.4 Mentalities

In the last step toward a theory of non-demographic coping with demographic change, we want to construct a heuristic instrument to evaluate the role of mentalities in this process. Some theories on the consequences of demographic change state that such change has an impact on the mentality of the social unit. Keynes (1937), for instance, thought a pessimistic mood might prevail. Kaufmann (2005) has predicted that complacency will become the dominant discourse, and a pessimistic mentality will weaken the adaptability of a society in the case of a shrinking population. If Kaufmann's theory is correct, the impact on mentality would be crucial as it would not only influence the way a society copes with a specific problem, but a society's capacity to cope as such. However, mentality is quite a broad concept that

is hard to come to grips with theoretically. Within our limited purpose of a theory of coping with demographic change, we will highlight three elements of the relation between demographic change and mentality: (1) we will define mentality; (2) we will specify it referring to the concepts of framing, collective efficacy and reflexivity; and (3) we will make suggestions in which way demographic change might influence mentality.

Since mentality is a rather opaque concept, it has to be clarified what the term, as we use it here, does not mean and what in our view is a viable definition. We will not use the term to mean unspecific kinds of thinking and feeling (e.g., Spode 1999, p. 10). There is a certain tradition to continue old patterns of folk psychology under the guise of mentality that are closely related to stereotypes such as 'happy Balinese people' or 'a German mentality is characterised by anal fixation'. Quite often the concept of mentality is simply used for the othering of groups or nations.

In contrast to this stereotypical concept of mentality, we follow Mauss (2004, p. 137), who argues that a collective mentality is formed by a civilisation's representations (techniques, art, religion, law etc.) and its practices. Noteworthy in the case of Mauss' concept is that, as opposed to the German usage of the term, practices are included. One could conclude that Elias' famous studies on the process of civilisation would be in line with this concept of mentality.

What is the relation of this holistic concept of mentality and individual behaviour? Farberman (1970) already clarified that, in the tradition of Mead, mentality is not something above or outside an individual but refers to the individual's selectivity of perception, to the representation of social conditions in each unit of social action via a reflective "inner forum", and to the plurality of perspectives that one can adopt in society to respond to social situations.

Despite the fact that this concept of mentality would fit our purpose, it is still too broad to be a heuristic instrument for the study of the impact of demographic change on mentalities. Therefore, we will sharpen certain partial elements of our definition of mentality that are closer to empirical research. One element has already been mentioned and discussed in detail: each cycle of coping with problems results in (collective) experiences, which guide the perception of new problems; they are framed in perception. Typical frames are one element of mentalities. Typical frames with regard to demographic change are, as discussed above, a growth frame, a demographisation frame, a realistic frame and a denial frame.

A second element of mentalities is also a result of a cycle of coping, which is re-introduced into a new cycle of coping: in social action, people develop an idea of how effective they are in influencing the situation at hand. In social psychology and sociology, the concept of self-efficacy has been refined and extended to ideas of collective efficacy (Sampson and Raudenbush 1999, 2004; Friedrichs and Oberwittler 2007): collectivities also have a notion of how successful or unsuccessful they are, for instance, in leaving a mark on their neighbourhood. Signs of disorder in neighbourhoods, such as derelict buildings, communicate that people are not able to shape their environment in the ways they would like to. Studies show that the degree of collective efficacy in a neighbourhood is dependent on the economic resources and the duration of residence in an area. Low collective efficacy, especially signs of

disorder, increase anxiety, decrease efforts of social control and increase criminality. In reference to a declining population, it is important to note that derelict buildings, which sometimes accompany shrinkage, have a symbolic meaning that represents collective efficacy: they are signs of humiliation that influence self-esteem and quality of life (Häussermann and Siebel 2004, pp. 169–170; Ross et al. 2001).

A third element of mentalities is a form of social reflexivity. Mentality is a form of inner conversation with the social environment. People differ in their patterns of applying social reflexivity. Reflexivity can be defined as a regular exercise of the mental ability to consider oneself in relation to one's social context and to evaluate the social context in relation to one's projects (Archer 2007, p. 4). Archer differentiates empirically four forms of social reflexivity: autonomous reflexives, communicative reflexives, meta-reflexives and fractured reflexives. The forms of reflexivity, which will be described in more detail, are differentiated by their relation to the social context: autonomous reflexives move beyond their context, communicative reflexives stay in their context, meta-reflexives do not fit in their context and fractured reflexives are usually unable to pursue a coherent path.

In detail, autonomous reflexives (Archer 2003, pp. 210–254) not only engage in reflection, they also come to clear decisions. They leave their social context, develop strategic agency and are self-disciplined. A characteristic is that they reflect on their social context autonomously in a self-contained way (Archer 2007, pp. 113–127). Their projects result in contextual discontinuity; upward mobility and orientation beyond the local context are common.

By contrast, communicative reflexives (Archer 2003, pp. 167–209; 2007, pp. 158–191) reflect in talking with others, especially family and friends, whom they appreciate. They do not reflect on their circumstances, they try to evade them. They struggle to attain a stable modus vivendi. Usually they reproduce their social group of descent. They develop a self-sacrificing habitus. Their projects keep them in a state of social immobility while they are well adapted to the local context. Contextual continuity is the norm. It is worthwhile to mention that only this type of reflexivity resembles the concepts of "mentality" associated with the process in which social groups reproduce their social position (Geiger 1932). These concepts were refined and popularised by the concept of habitus by Bourdieu (2010). Archer accentuates in her empirical typology that a continuation of one's social group is only the result of a specific kind of agency.

A third type, called meta-reflexives (Archer 2003, pp. 255–297; 2007, pp. 127–141), reflects on reflection. They are characterised by contextual discontinuity. They are idealists, value-oriented and try to transform the self, in a quest for self-improvement. They hold on to ideals in contrast to reality.Consequently, they are to some degree incongruous with their context and sometimes subversive in their actions. Being open to the local and the global, and sometimes involved in community organising, they are potentially universal citizens.

A fourth type, fractured reflexives (Archer 2003, pp. 298–341), is defined more by the absence of effective reflexivity than by the mode or content of social reflexivity. Fractured reflexives are unable to develop an instrumental orientation in their internal conversations. No projects are formulated. Their agency is impeded, which results in agential passivity.

Archer's concept of social reflexivity can be useful for a model of coping with demographic change as it provides a clear description of the mode of agency of social actors. However, it has to be specified how these types, originally developed for individual social actors, can be transferred to larger groups of social actors, such as municipalities. In posing this question, we follow the general line of this book: corporate actors can be treated as a special kind of social actor that can be analysed in ways that are similar to individual actors. Archer herself referred to a self that is either an individual "I/me" or a corporate actor that is a "we" (Archer 2003, p. 124). In the case of corporate actors, conversations that constitute reflexivity then refer to spoken conversations and not to inner conversations. The items on the measurement scale have to be modified only slightly.

Institutions constitute a second distinct area of applying the concept of social reflexivity. For instance, a country's institutionalised political structures privilege decisions, deliberations or norms to a greater extent than in another country. Sometimes they even result in a powerful stalemate. In theory, it is possible to develop such an institutional component of social reflexivity parallel to autonomous, communicative, meta-reflexive and fractured forms of reflexivity, especially since it can be constructed along the lines of Montesquieu's standard model of the separation of powers. But since we do not use an institutional concept of social reflexivity in the empirical part of this book, it is not elaborated here.

In this chapter, we have operationalised the concept of mentality by three more detailed elements: framing, collective efficacy and social reflexivity. In view of demographic change, a declining population is especially seen as influencing the mentality in society in the direction of a pessimistic mood and complacency (Kaufmann 2005). We can be more precise in formulating a hypothesis here: a social unit with a declining population is more prone to lower collective efficacy (*efficacy hypothesis*). In this sense, a 'pessimistic mood' would be the result of a reduced capacity to act collectively, communicated by a high degree of distrust within the population or by symbolic signs of disorder. Another mentality mechanism to produce Kaufmann's complacency would be the effect of a declining population on social reflexivity (*social reflexivity hypothesis*). A very strong effect would be if forms of fractured reflexivity occur more frequently in municipalities with a declining population. This would damage the capacity to formulate autonomous projects. A weaker effect in this direction would be that in social units characterised by a declining population, forms of communicative reflexivity are more frequent than in other municipalities. In this case, there would still be projects but of a less innovative kind.

3.4 Short Summary

The theoretical model of this book is structured as a heuristic tool to analyse the social processes constituting the effects of demographic change. Demographic change, especially a declining population, constitutes a challenge to modern societies. This challenge, however, does not immediately produce effects in a deterministic fashion: it is mediated by the specific responses to these challenges. Those

responses fall either in the category of demographic or non-demographic responses to demographic change.

Demographic responses try to either influence fertility rates, exploit gains in longevity by restructuring the life course, or increase population influx by either reducing the structural barriers to or raising the attractiveness of immigration. Demographic responses generally take too long to counter all the consequences of demographic change. Sometimes demographic responses are not even viable options at all. Therefore, non-demographic means of coping with demographic change have to be an important area of social reflection when responses to demographic change are considered.

Due to their importance to our context, and also to the lack of clarification in the existing literature, heuristic models of non-demographic ways of coping with demographic change were spelled out systematically and in more detail. Relevant to the coping model are four elements: a social definition of the problem, a coping strategy, institutions and mentalities. We theorise on the basis of a realistic model of problems, which are constituted by a discrepancy of the resources available to a social unit and the aspirations it develops. In general, the problem in question is socially defined by the social unit by accentuating resources, aspirations, both or neither: a growth frame focuses on regaining resources, a demographisation frame stresses adapting aspirations, a realistic frame considers both and a denial frame neither. A second element, efforts of coping, is characteristic of coping strategies that follow a similar but not completely congruent logic: The coping strategy of expansion tries to regain resources by shifting the focus to new areas of activity either by following a plan or by improvising collectively. The coping strategy of reduction seeks to readapt aspirations either by reducing activities or by switching identity, which can be provided for by cultivating diversity. The coping strategy of reorganisation replaces either the persons in certain positions or changes the structure of positions within the social unit. The coping strategy of threat rigidity is characterised by non-reaction as a result of failed responses, organisational dynamics or institutional vulnerabilities.

A third element is institutions. Institutions are the backbone to societal and organisational ways of coping. In general, the institutional pattern of modern societies is geared toward producing adaptability and similarity. The focus of this book is on the organisational field of the labour market. Therefore a number of hypotheses are formulated with regard to the intervening variables of the labour market in coping with demographic change. It is postulated that the proceedings of internal labour markets in coping with demographic decline may produce second-order problems as they hamper adaptability. Alternative hypotheses see external and dual labour markets as empirical equivalents. As labour markets are forms of organised cooperation parallel to modes of symbolic exchange, the division of labour is also a potential intervening variable in coping with demographic change. The hypothesis proposed is that division of labour is one institutional coping strategy to influence the levels of competition shaped by demographic change. Levels of society have to be differentiated as each follows a different logic: whereas world society triggers differentiation, shrinking regions may bear the potential for either de-differentiation or

multi-dimensional specialisation. A fourth element is mentalities. Similar to institutions, mentalities are part of the longue durée of coping with demographic change. In our mentality concept, we follow Mauss and Mead in accentuating agency and a pragmatic concept of mentality. We operationalise mentalities in terms of framing, collective efficacy and social reflexivity. We formulate hypotheses that social units with a declining population might experience an increase in particular forms of social reflexivity, namely, in fractured and communicative forms.

The theoretical model developed in this chapter serves as a heuristic concept. The following empirical chapters are therefore not just applications of a general theory, but efforts to strengthen, rebut, refine and revise the theoretical tools. The different elements of the theoretical concept feature in some empirical chapters more than in others. Chapter 5 will elaborate framing by corporate actors in different countries. Coping strategies are analysed in Chaps. 6 and 7. Chapter 8 highlights the institutions of labour market flexibility. Chapter 9 dissects the division of labour in different patterns of organisation. Mentalities are the subject of Chap. 10. The general effects of demographic change, with a special reference to framing and demographic ways of coping, are treated in Chap. 11.

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Chapter 4
Data Sets and Methods Used

Abstract This chapter explains the key methodological decisions and describes the mixed methods applied in a comparative design of the most similar cases. In addition, it characterises the data sets used in the book. They include expert interviews in municipalities in Poland and Germany; a postal survey of mayors in Poland and Germany; secondary data analysis of the Bertelsmann study in Germany; secondary data analysis of SIO, a quantitative data set on the employment situation of Polish teachers; a secondary data analysis of budget development and educational spending in two Polish municipalities; a comparative longitudinal secondary data analysis of the development of all educational organisations in an East German state; and a secondary panel data analysis of the demographic responsiveness of municipal finances in Germany and Poland.

The major focus of this book is on results. Therefore issues of empirical methods are raised only to shed light on the major methodological decisions made, data sets used and methods of data analysis chosen without going into too much detail.

4.1 Methodologies for Studying Coping with Demographic Change

The question of methodologies is primarily a matter of the methodological design one chooses. With respect to coping with demographic change, three methodological design decisions are important. The first question is, is it sufficient to use existent data sets (secondary data analysis) or is it necessary to collect new data? In our study we did both. In our own data collection, expert interviews were very important. This importance derives from the fact that corporate actors are a key group in coping with demographic change. A limitation of our study is that we mainly stick to one level of corporate actors: municipalities.

The next question is, should one use quantitative or qualitative data sets? We think both are necessary. Qualitative data are useful in reconstructing patterns of

Author: Reinhold Sackmann

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interpretation and practice and, in this way, gaining an idea of the structure of meaning underlying the measures taken. Quantitative data, on the other hand, are helpful in drawing general conclusions on processes and performing multivariate causal analyses. As both forms of data aim at different aspects of reality, a triangulation of the information gathered by these methods is necessary. In our view, triangulation should carefully respect the logic of the different methods, but also interpret the overlap of both sources of data.

The third question is, how can one analyse a given society? Comparisons are a major way of studying coping with demographic change. International comparisons are important to reflect on the taken-for-granted dimensions of the institutional structure that one sets out to analyse. There are different ways to conduct international comparisons. We primarily used a comparison of most similar cases (Germany, East and West; transition countries with a large drop in fertility: East Germany and Poland). Cultural heterogeneity and language barriers were controlled for by working in nationally mixed teams of researchers. Longitudinal comparisons are important to be able to analyse causal processes. Depending on the availability of secondary data sets, we employed a timeframe of 2–15 years. A limitation of our study is that we did not have panel data sets of our own specifically designed for our purposes.

4.2 The Data Sets Created and Used

The empirical research for this book rests on a combination of (a) 103 qualitative expert interviews with municipal actors in Germany and Poland, (b) a survey with 319 mayors in the two countries, (c) a secondary quantitative data analysis of the Bertelsmann study (also resting on questionnaires with mayors, who were asked about demographic policy issues), which was complemented with performance indicators of the municipalities, (d) a quantitative secondary data analysis of the SIO, a full-scale Polish data set on the employment periods of nearly all teachers in Poland, which was complemented with demographic data of municipalities, (e) a quantitative secondary data analysis of educational spending in the municipalities of the Łodz and Mazowian Voivodships, (f) a quantitative time-series analysis of key data on educational levels in Saxony-Anhalt and (g) a secondary panel data analysis on municipal finances in Germany and Poland.

a. To gain an idea of the personnel decisions made in municipalities, 103 experts on personnel issues were interviewed in Germany and Poland in 2006. We also interviewed mayors, heads of departments of municipal administrations and of kindergartens (Germany) or schools (Poland), respectively (see the online appendix for our interview guides). Based on theoretical sampling, we selected these interview partners from municipalities larger than 10,000 inhabitants with growing, stagnating or shrinking populations, in East Germany (Brandenburg and Saxony-Anhalt), West Germany (Rhineland-Palatinate) and Poland (Mazowia and Silesia) (further details in Bartl 2011). These data provide the basis for the

Chaps. 5 and 7 of this book. All interviews were transcribed and are available for secondary data analysis (Bartl et al. 2012). In Poland, 53 expert interviews, partly overlapping with and partly in addition to the above-mentioned sample, with the heads of municipal schools, local and regional administrators as well as a few intermediate experts gave detailed insight into the proceedings in the organisational field (further details in Kopycka 2013). These data are used in Chaps. 7 and 9 in this book (see Table 4.1 for a list of the quoted interviews). Note that names of places in our quoted interviews are pseudonyms in order to protect the privacy of interviewees and to avoid stigmatisation of places.

b. In 2010/11 a representative sample of 319 mayors in Poland and Germany was questioned in a postal survey. The basic population consisted of all municipalities with more than 10,000 inhabitants in Poland, East and West Germany, of which a regionally stratified random sample of 784 mayors was contacted. The response rate was 40.7 % (see the online appendix of our survey questionnaire). These data are used in Chap. 10 in this book.
c. For a secondary data analysis of the effects of response strategies to demographic challenges, the Bertelsmann study was used, which consists of a postal survey of all municipal mayors in Germany in 2005 (to which 648 responded, which indicates a response rate of 45 %). In a complex process of data linkage, performance indicators of the interviewed municipalities were added to check for the effects of subjective views and strategies (further details in Rademacher, 2013). These data are analysed in Chap. 11.
d. For a secondary data analysis of the effects of changing personnel policies in Polish schools, the SIO for the years 2005–2007 was used. This data set contains information on the employment situation and employment periods of all individual teachers employed in Poland in the public sector (further details in Kopycka, 2013).[1] It is used in Chap. 9.
e. A further secondary data analysis was conducted using detailed information on budgetary developments and educational spending in the municipalities of the Łodz and Mazowian Voivodships for the year 2005. These data are part of the effect analysis in Chap. 7.
f. For a secondary data analysis of the development of educational organisations (early childhood education and care, general and vocational schools, higher education institutions) in shrinking regions, aggregated data from the statistical offices, including data on enrolment, the number of organisations and personnel in higher education instutions, was combined with demographic indicators. For this data set, information on the development of educational organisations in Saxony-Anhalt for the years 1991–2010 was used. These data are analysed in Chap. 8.
g. For a secondary panel data analysis of the demographic responsiveness of municipal finances, official statistics of municipal revenues in Germany and Poland for the years 1995–2010 were linked to demographic indicators and control variables. These data are used in Chap. 5.

[1] Fewer than 5 % of Polish pupils attend private schools (OECD 2012, p. 333).

Table 4.1 List of quoted interviews and sampling criteria for the municipalities studied

Reference	Expert's position	Municipality pseudonym/ intermediate organisation	Population numbers[a]	Population density[a]	Region
Bautenbach-Feldow BM	Mayor	Bautenbach-Feldow	70.8	74.6	East Germany
Bautenbach-Feldow PER	Manager of the department of human resources	Bautenbach-Feldow	70.8	74.6	East Germany
Bolfin BM	Mayor	Talstedt	−4.3	−4.3	East Germany
Bolfin PER	Manager of the department of human resources	Bolfin	0.4	−78.7	East Germany
Bolfin SOZ	Manager of the department of social affairs	Bolfin	0.4	−78.7	East Germany
Bracewo BM	Mayor	Bracewo	65.1	65.1	Poland
Buciszewo GEM	Head of the department of education	Buciszewo	0.7	−31.9	Poland
Buciszewo GRU	Head teacher (primary school)	Buciszewo	0.7	−31.9	Poland
Dahrenberg BM	Mayor	Dahrenberg	−6.6	−6.6	West Germany
Dahrenberg PER	Manager of the department of human resources	Dahrenberg	−6.6	−6.6	West Germany
Dahrenberg SOZ	Manager of the department of social affairs	Dahrenberg	−6.6	−6.6	West Germany
Dobroniec GEM	Head of the department of education	Dobroniec	−6.7	−6.7	Poland
Dobroniec GRU	Head teacher (primary school)	Dobroniec	−6.7	−6.7	Poland
ExpStGem	Member of an education committee	Polish Cities Association	–	–	Poland
Giebelsdorf BM	Mayor	Giebelsdorf	−2.9	−2.9	West Germany
Giebelsdorf PER	Manager of the department of human resources	Giebelsdorf	−2.9	−2.9	West Germany
Goromierz PER	Manager of the department of human resources	Goromierz	−9.0	−8.9	Poland
Goromierz PRÄ	Mayor	Goromierz	−9.0	−8.9	Poland
Goromierz GEM	Head of the department of education	Goromierz	−9.0	−8.9	Poland
Goromierz GYM	Head teacher (lower secondary school)	Goromierz	−9.0	−8.9	Poland
Kołowina BM	Mayor	Kołowina	−12.5	−12.5	Poland

Table 4.1 (continued)

Reference	Expert's position	Municipality pseudonym/ intermediate organisation	Population numbers[a]	Population density[a]	Region
Kołowina GEM	Head of the department of education	Kołowina	−12.5	−12.5	Poland
Kołowina GRU	Head teacher (primary school)	Kołowina	−12.5	−12.5	Poland
Kołowina ZS	Head teacher (combined primary and lower secondary school)	Kołowina	−12.5	−12.5	Poland
Landesverwaltungsamt ST	Member of the audit office of the state supervisory authority	State supervisory authority Saxony-Anhalt	−	−	East Germany
Linten BM	Mayor	Linten	−18.2	−18.5	East Germany
Linten PER	Manager of the department of human resources	Linten	−18.2	−18.5	East Germany
Mielcz GRU	Head teacher (primary school)	Mielcz	50.4	34.8	Poland
Mielcz GYM	Head teacher (lower secondary school)	Mielcz	50.4	34.8	Poland
Pötzberg BM	Mayor	Pötzberg	−0.6	−1.3	East Germany
Pötzberg PER	Manager of the department of human resources	Pötzberg	−0.6	−1.3	East Germany
Pötzberg SOZ	Manager of the department of social affairs	Pötzberg	−0.6	−1.3	East Germany
Sentig BM	Mayor	Sentig-Sendow	48.3	14.0	East Germany
Sentig PER	Manager of the department of human resources	Sentig-Sendow	48.3	14.0	East Germany
Sierowice BM	Mayor	Sierowice	−0.5	−0.5	Poland
Sierowice GEM	Head of the department of education	Sierowice	−0.5	−0.5	Poland
Sierowice GYM	Head teacher (lower secondary school)	Sierowice	−0.5	−0.5	Poland
Sierowice ZS	Head teacher (combined primary and lower secondary school)	Sierowice	−0.5	−0.5	Poland
Starów BM	Mayor	Starów	0.0	0.0	Poland
Starów ZS	Head teacher (combined primary and lower secondary school)	Starów	0.0	0.0	Poland
Stechwitz BM	Mayor	Stechwitz	−15.6	−30.7	East Germany

Table 4.1 (continued)

Reference	Expert's position	Municipality pseudonym/ intermediate organisation	Population numbers[a]	Population density[a]	Region
Stechwitz PER	Manager of the department of human resources	Stechwitz	−15.6	−30.7	East Germany
Stechwitz SOZ	Manager of the department of social affairs	Stechwitz	−15.6	−30.7	East Germany
Talstedt SOZ	Manager of the department of social affairs	Talstedt	−4.3	−4.3	East Germany
Wabental SOZ	Manager of the department of social affairs	Wabental	33.4	14.4	West Germany

[a] Relative changes from 1994 (Germany) and 1995 (Poland), respectively, to 2005 in per cent of the first year's value. Source: adapted from Bartl, 2011, p. 109

4.3 Approach to Data Analysis

The analysis of the qualitative data was mostly based on transcriptions of the expert interviews (which were sometimes translated from Polish to German). MaxQDA was used in coding the material. Most interviews were analysed by content, types of practices and structures of meaning. Small parts of the material were analysed in group analysis with a focus on interpretative repertoires.

We employed two kinds of methods in the quantitative analysis of longitudinal data. The SIO data set was analysed by logistic regression, which is commonly used in analysing transitions in processes of intragenerational mobility (Chap. 9). The German municipal data set was analysed by panel regression with fixed effects estimators (Chap. 5). Chapters 7 and 8 use bivariate regressions.

We employed two kinds of methods in the quantitative analysis of cross sectional data. We analysed our own survey with mayors in Germany and Poland using confirmatory latent profile analysis (Chap. 10). The Bertelsmann study was analysed employing multivariate regression (Chap. 11). Due to the small sample size of the Bertelsmann mayor sample, special attention was given to carefully check for (and remedy) violations of presuppositions of regression (for further details, see Rademacher 2013).

Electronic Supplementary Material

The online version of this chapter (doi:10.1007/978-3-319-10301-3_4) contains supplementary material, which is available to authorized users. Caption of the data object (Excelfiles.zip 711 kb)

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Chapter 5
Why do Municipalities 'Think' in Demographic Terms? Governing by Population Numbers in Germany and Poland

Abstract What are the mechanisms that make local public services vulnerable to demographic decline? The local provision of welfare services was established during times of growing or at least stable population numbers. Economists consider demographic decline to be problematic because some of the costs for public service provision will remain largely fixed even if capacities are not (completely) utilised. Since public services lack a market environment to ensure the flexible adaption of supply to changing demand, the present chapter looks at the institutional mechanisms by which public administration translates demographic changes into internal problems. Two hypotheses are elaborated and analysed. Firstly, planning and legitimating service production in the public sector rests on an in-kind calculation of service capacities. In this context, (age-specific) population numbers serve as calculative devices to allocate and adapt tasks and resources. Secondly, the degree to which task and resource allocation are bound to population numbers varies between institutional settings. Consequently, the vulnerability of municipal service provision can be expected to vary accordingly. The first hypothesis is investigated using expert interviews, the second on the basis of panel regressions using official data from German and Polish municipalities. The results exemplify that demographic decline diminishes financial resources, increases the benchmark of efficiency for personnel policy, and lessens the symbolic power attached to resident numbers in the political process of territorial reforms.

5.1 Introduction

Previous research on possible consequences of demographic change for municipalities has primarily focused on the demographic responsiveness of local public expenditure. On the one hand, economic literature points to the possibility of considerable cost savings in the face of declining cohort sizes (Seitz 2008, pp. 4–5). On the other hand, it has been stated that expenditure in the public sector probably cannot be easily adjusted according to declining demand for local public services because

Author: Walter Bartl

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of the fixed costs that are incurred (e.g., for buildings and staff) even if those services are not used to capacity. Yet, according to neoclassical reasoning, this inertia of supply structures is considered to be only of a transitory nature as relative prices of services will eventually determine supply capacities despite the distinct production conditions in the public sector (Seitz 2008, pp. 25–28). However, this line of research fails to convincingly explain why inelasticities of supply occur. Freigang and Kempkes (2008) admit that statistical analysis alone cannot clarify whether the observed inelasticities of expenditure are due to a lack of adaptability in public service organisations or are the result of a deliberate political strategy of investing in local public infrastructure. The argument put forward in this chapter is that in order to understand responses to demographic decline (for example, decisions on public expenditure), it might be useful to analyse which particular challenges municipalities face in such a situation. The basic assumption is that institutional features of the public sector cause specific problems in responding to demographic decline and account for responses that differ significantly from what neoclassical reasoning would have us believe. Institutional features of the public sector are guided by normative ideas surrounding the provision of public goods and the politically acceptable means of such provision.

From an economic point of view, public organisations are (normatively) expected to (promptly) adapt local public expenditure to demographic decline. However, public organisations are known to operate in environments that differ from the ideal-type market that is assumed in neoclassic economic theory (e.g., Moe 1995). With this in mind, other authors expect public organisations to rely on decision making based on (hierarchical) political communication as a means of coming to terms with an overly complex environment (Luhmann 1990). This is why some advocates of systems theory are very sceptical that public organisations would pay any attention to demographic change at all (Becker 1981). In the absence of an effective price mechanism, there arises the question of why public decision makers should opt for potentially very unpopular measures of adapting local public services to a demographically induced decline in demand.

Expecting demographically responsive supply structures in public services only makes sense if there are organisational routines and/or institutionalised mechanisms of governance that systematically work in favour of moving demographic change onto the political agenda. This chapter devotes its attention to the administrative technique of calculation in kind and the governance mechanism of fiscal federalism in this respect. Calculation in kind—that is, the planning and accounting of production in physical units—in the public sector is often related to a certain population living in a territorially defined jurisdiction (as natural units of consumption). Hence, calculation in kind might propel demographic decline onto the political agenda as soon as administratively calculated demand falls below a certain (politically defined) threshold (*calculation in kind hypothesis*). To which administrative tasks does such an assumed adaptive mechanism apply?

In the public sector, supply and demand for services are first calculated in kind (e.g., per capita) and are only later translated into monetary units. However, as most operations of political organisations require monetary resources at some point, the

allocation of revenues is crucial to their functioning. This aspect of the public sector is analysed in economic literature using the concept of fiscal federalism. Fiscal federalism denotes intergovernmental fiscal relations, that is, the vertical and horizontal division of fiscal power between governmental units as laid down in tax laws, embodied in compensation mechanisms (revenue side) and defined by areas of political responsibility (expenditure side) (Oates 1999).[1] In the present chapter, intergovernmental fiscal relations are of interest not in terms of their economic efficiency, but rather in regard to the politically defined criteria for (re)distributing financial resources at the subnational level since these criteria might imply a certain responsiveness of municipal revenues to changes in population numbers in two ways. Firstly, demographic change might influence public revenues in that population numbers have an impact on economic performance. Secondly, in some countries (e.g., Germany) intergovernmental transfers are even explicitly tied to population numbers by institutional design. Consequently, several papers on this topic assume for the situation in Germany that declining population numbers automatically translate into decreasing total municipal revenues since fewer people means a shrinking tax base and lower subsidies from other government units (Seitz and Kempkes 2007; Seitz 2007). Hence, demographic decline is expected to exert fiscal pressure on municipalities. However, rather than being a quasi-natural form of pressure emanating from population developments, what we are seeing is in fact pressure constituted by specific institutional settings of intergovernmental fiscal relations (*fiscal federalism hypothesis*). From this it follows that institutional settings might differ significantly in terms of the fiscal pressure they exert on municipalities. How large are such differences, and how can they be accounted for?

The purpose of this chapter is threefold. Firstly, it aims to theoretically elaborate the relevance of demographic change to the public sector. Secondly, we illustrate the assumption of calculation in kind as a specific adaptive mechanism of public service provision and build on qualitative evidence from expert interviews in Germany and Poland to do so (*calculation in kind hypothesis*). Thirdly, we assess the demographic responsiveness of municipal revenues in Germany and Poland in a comparative perspective (*fiscal federalism hypothesis*).

5.2 Is Demographic Change Relevant to Public Sector Organisations?

The mass media consider demographic ageing (Lundgren and Ljuslinder 2011) and population decline (Teitelbaum 2004; Teitelbaum and Winter 1985) to be a serious problem with foreseeable negative consequences for society. Science adopts

[1] Empirically, fiscal federalism implies a minimum of fiscal decentralisation – irrespective of the constitutional form of government (whether the states in question are unitary, federal or confederate states).

a different perspective. There, the possible consequences of demographic change are considered to be an empirical question that cannot be sufficiently answered by quasi-natural extrapolations of demographic trends to the social realm. Any scientifically reliable answer to the question of possible consequences of demographic change would mainly depend on the adaptability that is attributed to the social institutions and organisations of modern society. The primary interest of the present chapter is the demographic responsiveness of public sector organisations. But are there any reasons to believe that public sector organisations might be equipped to adequately adapt to population decline? What kind of structural challenges does population decline have in store for municipalities?

The international diffusion of new public management has been based on a fundamental critique of the responsiveness and flexibility of public sector organisations (e.g., Osborne and Gaebler 1993). From an economic point of view, it seems to be quite improbable that public administrations would respond adequately to environmental changes because they lack the incentives of markets to do so. An oft-proposed remedy to the problems of the alleged low responsiveness of public administration, particularly in Anglo-Saxon countries, has therefore been to organise service provision in the public sector along market lines to the greatest possible extent. However, the critics of new public management doubt that a shift in the focus of public decision making from abiding by the law to resource efficiency would be desirable (König 1996, 1997). They emphasise the different normative nature of public decision-making processes compared to decision making in private sector organisations. Proponents of this distinctiveness argument (implicitly) assume that during an evolutionary process of functional differentiation organisations have acquired comparative advantages that cannot be sacrificed without losing adaptive capacities of society as a whole (Parsons 1964). Empirically, such scepticism towards a marketisation of public sector organisations has mainly been observed in continental European countries, such as Germany (Pollitt and Bouckaert 2011; Wollmann 2012, p. 54). Instead of marketisation, many of these states have begun to apply genuine bureaucratic measures to improve state effectiveness and reinvigorate the traditional "Weberian state" (Pollitt and Bouckaert 2011).

Proponents of systems theory share such doubts about the responsiveness of public sector organisations—at least with respect to demographic change. At the beginning of the 1980s, Bernd Becker, a German public-administration scholar, questioned whether the public sector could be expected to pay due attention to the problems arising from demographic change. Becker (1981) based his argument on the fundamental assumption of systems theory that environmental complexity must be reduced within organisations for organisations to maintain the difference between themselves and their environments. Only external events that are relevant to internal processes are absorbed as information by the organisation. From this point of view, the organisational boundary works as a cognitive filter rendering it highly improbable that organisational decision making would be responsive to just any kind of environmental event (Luhmann 2006).

If the possibility of demographic changes causing serious problems to the provision of public services is not to be neglected and the evolutionary-distinctiveness

argument of systems theory is to be taken seriously at the same time, it becomes crucial to explain which features of public sector organisations are likely to constitute vulnerability or enhance responsiveness to demographic changes.

The relationship of population decline and municipal public services can be described more precisely if we consider the economic functions of municipalities in a welfare state, which is for their public administrations to produce politically desired services for certain populations. Technically, this administrative production process includes the planning and organisation of adequate quantities and qualities of public services. In terms of political legitimacy, it presupposes the potential to convince changing (public) audiences of the rationality of administrative decisions. In this context, accounting systems seem to be crucial in performing both the technical and legitimatory tasks (Carruthers and Espeland 1991). Max Weber, for example, attributed a major technical role in the evolution of modern capitalism to the double-entry bookkeeping of monetary resources. Weber argued as well that calculation in kind was a conceivable alternative for (rational) economic calculation. Along the same lines, he maintains that quantification and evaluation in terms of physical units typically exist side by side with monetary recordkeeping even in capitalist companies (Weber 1980, pp. 54–55).

For Weber, economic rationality is oriented towards *anticipated* demand for certain utilities (Weber 1980, p. 31). In order to meet that demand, the best use of scarce resources has to be planned and calculated because they could be used for competing purposes as well. Such an instrumental calculation can be highly formalised when particular goods and services are valued in money and market prices, which is the mode in which calculation in monetary terms (*Geldrechnung*) finds its expression and which is the kind of calculation that capitalist private enterprises typically perform. However, such calculations can also be performed directly in kind (*Naturalrechnung*) (Weber 1980, pp. 45–48, 53–58) by relating physical units of production to certain units of consumption, as in decommodified production processes.[2] Calculation in money and calculation in kind share the basic feature of formal rationality, which is deliberation about alternatives on the basis of numerical information about the economic value of goods and services.[3] In capitalist production, the expected volume of demand at a certain market price, and hence the potential revenue, informs the calibration of production capacities on the supply side. In situations of changing demand, price volatility indicates that production capacities should be adjusted. In decommodified production processes, changes in demand have to be detected in an administrative process of calculation in kind. Usually, easily observable proxies for units of consumption are used to this end and counted statistically. Production processes based on some kind of system of rational accounting are not kindred systems only in terms of their common roots in

[2] The level of calculation in kind and barter or monetisation and marketisation of an economy is an empirical question.

[3] Translated into Marxian terms, calculation in kind (or calculation in natura) refers to the use value rather than the exchange value of goods and services.

formal rationality. To the extent that they are subject to social expectations holding them accountable to different audiences, they are also required to keep some kind of written accounting records in order to rationalise organisational decision making in view of those stakeholders not directly involved in the relevant transactions. Whereas Weber (1980, pp. 54–58) concedes that calculation in kind has a certain rationalising potential for decommodified economic production, he also acknowledges severe problems due to the incommensurability of goods and services (for an opposing view, see, e.g., Neurath 1925). These problems were broadly discussed after the First World War in the so-called Socialist Calculation Debate (Uebel 2005; Uebel 2008).

Political organisations such as municipalities engage in economic activities—for instance, as service providers and public employers—yet they evaluate these activities primarily in terms of the political ends they are supposed to achieve (policies and power) and not in terms of profit. Correspondingly, there are no market prices (in any strict sense) for public services. Thus, planning processes in the public sector are usually based on an in-kind calculation of politically defined needs and their supply. In modern welfare states, in-kind calculation of supply structures is frequently based on population indicators—but not limited to them. Population numbers are rather easily available and the territorially bound jurisdiction of public services makes numbers on (sub-)populations often a satisficing proxy for planning processes. In this chapter, it is not possible to reconstruct how population numbers have acquired this role historically. An important precondition, however, was the emergence of population statistics as part of public bureaucracy. Michel Foucault showed that the concept of population as an object of knowledge and governance emerged during the eighteenth century (Foucault 2006). The mercantilist state sought to gain knowledge of the population in order to regulate their economic functioning (Schmidt 2005). Accordingly, Alain Desrosières (2005) pointed out that with the institutionalisation of statistics as part of bureaucracy, numerical information began to play an important role in administrative planning processes. For example, since the so-called Stein–Hardenberg Reforms of the early nineteenth century in Prussia, a statistical bureau systematically kept quantitative information on the national economy, including demographic data (Hacking 1990, pp. 27–34). The primary audience for this data was the central government of the monarch, who wanted to be informed about his tax base and control decentralised administrative units such as the municipalities on his territory. In modern democracy, numbers have become even more important for governance, and the audiences more diverse. Vote counts legitimise those in power, and government itself depends on numerical information for the formulation and implementation of policies, while citizens need a certain degree of numeracy in order to exert effective self-control (Rose 1991). More recently, the increased communication of numerical comparisons (Heintz 2010) on the part of public organisations seems to have contributed to boosting their reflexivity and self-discipline. Hence, the (statistical) observation and communication of declining population numbers might indicate a changing demand in public service production and initiate political debate about adaptation processes (*calculation in kind hypothesis*).

Similar to calculation in kind and the communication of its results, the impact of demographic decline on municipal budgets is likely to induce fiscal challenges for local governments as a consequence of an overall decrease in municipal revenues. Although certain revenues mostly depend on the economic situation of a municipality (and the surrounding region), others additionally depend on population numbers (Bach et al. 2002). In some institutional settings, intergovernmental equalisation schemes, for example, are explicitly tied to population numbers. The rationale behind such schemes again resorts to calculation in kind as will be shown later in this chapter. To the extent that increases in productivity do not offset the impact of population decline and expenditure cannot be adjusted immediately, a fiscal gap is generated. However, the fiscal pressure resulting from demographic decline depends on the nature of intergovernmental fiscal relations (*fiscal federalism hypothesis*). These relations determine the extent to which municipal revenues depend on population numbers. As intergovernmental fiscal relations are the result of political processes, we can expect significant differences in the demographic responsiveness of municipal revenues between given institutional settings.

In the following first empirical part of this chapter, we will use expert interviews to explore contexts in which population numbers explicitly gain relevance for municipalities. Among the contexts emerging from the qualitative analysis, we consider municipal revenues to be the theoretically most interesting subject. Therefore, the second empirical section will add to the qualitative analysis by examining the demographic responsiveness of municipal revenues in quantitative terms.

5.3 In-kind Calculation of Municipal Services Based on Population Numbers

Declining population numbers theoretically should become a relevant issue in the context of political decision making because demographic change is institutionally linked to the operations of public service administration via a specific "calculative device" (Callon and Muniesa 2005): in-kind calculation. Although in the recent past there has been growing attention in economic sociology (Muniesa et al. 2007) on a wide range of socio-technical devices, in-kind calculation has yet to be addressed. Hence, it is unclear which fields of local government typically apply this calculative technique. The present empirical section of this chapter analyses three fields of local government that emerged as important in this respect during the research process: municipal responsibility for certain tasks, human resource management and intergovernmental fiscal relations. If the relevance of demographic change to public organisations is mediated by organisational routines and institutional settings, these factors must be varied systematically to understand their influence. Hence, the empirical part of this chapter investigates how similar demographic conditions (population decline) are perceived to be relevant to municipal decision making against the backdrop of three institutional contexts: East Germany, West Germany and Poland.

5.3.1 Municipal Tasks and Territorial Reforms

During the process of urbanisation, municipalities began to assume basic tasks of providing technical and social infrastructure, which today are considered to be central elements of welfare-state intervention into social problems (Kaufmann 2012). In the communist era, local self-government was suspended in East Germany and Poland. Yet after the Velvet Revolution, this basic institution was fundamentally rebuilt: in East Germany according to the principles of West German federalism, with the municipalities being the lower tier of government (beneath the counties), which are subordinate to the respective federal state; in Poland according to the principle of a decentralised unitary state with significantly stronger municipalities. A simple but valid indicator of this institutional difference between Germany and Poland is the share of local-government expenditure in national GDP (cf. Stegarescu 2005, p. 304). While German municipalities spent 7.8 % of the national GDP in 2009, the local governments in Poland accounted for 15.0 % of the national GDP in that year (Bartl 2011, p. 308).[4] The divergent expenditure levels are partially due to differences in responsibilities in the area of schooling. Whereas teachers in Poland are paid by the municipality, in Germany they are paid by the federal states—local governments are only responsible for funding school buildings and school transportation.

Apart from the institutional structure of the state, almost every state features a specific system of central places (Christaller 1933) in which municipalities stand in a more or less hierarchical relation to one another in terms of the number and diversity of urban functions they provide. Quantitative studies on economies of scale suggest that population numbers as such might be important for the spatial allocation of urban functions (Bettencourt and West 2010, 2011). There is also some evidence that relatively large municipalities are an important precondition for a substantial decentralisation of state tasks (Swianiewicz 2010). However, there is no linear relationship between settlement size and administrative efficiency. Rather, some studies have found medium-sized settlements to be economically more efficient than very small and very large ones (Swianiewicz 2002; for a critical overview, see Houlberg 2010). This notwithstanding, the purpose of this chapter is not to clarify the myriad questions related to economies of scale. In our context, it is much more important to note that there is an academic discourse on economies of scale in public administration that has had a selective impact on institutional design (in some countries). In Germany, for instance, the system of central places—originally inspired by Christaller's (1933) theory—has been formally institutionalised by law and guides spatial policy and the allocation of administrative responsibilities to municipalities partially based on population numbers (Blotevogel 2002). In Germany and Poland, municipalities are required to fulfil obligatory tasks that are delegated

[4] In Poland, counties and voivodships are also considered parts of local self-government. The municipalities have nevertheless assumed the largest part of local self-government tasks during the decentralisation process.

by the state, on top of which they are free to assume voluntary "genuine local-government tasks" (Kowalczyk 2000; Wollmann 2010). In Germany, obligatory tasks are estimated to account for between 80 and 90% of total municipal responsibilities (Reineke 1987, p. 88). In Poland, municipal tasks steadily increased during the postcommunist transformation process (Regulski 2003; Kowalczyk 2000, 2007).

In a context where administrative functions are institutionally tied to population numbers, demographic decline can be expected to automatically become relevant to municipalities—whereas in other institutional contexts, this might not be the case. How relevant are changing population numbers in Germany and Poland perceived to be to the tasks in municipal responsibility?

The following example of Bautenbach-Feldow[5], a growing municipality in the conurbation of Berlin, shows that the mayor interprets a growth in population directly as involving the need to expand the tasks of local public administration:

> Well, the municipality has gained inhabitants, from 7000 at the beginning of 1994 to around 12,000 in the meantime. The [administrative] structure had to be built accordingly. […] [For example,] the whole building authority and other things had to be created from scratch. (Bautenbach-Feldow BM: 8)

In the eyes of the mayor, it is a matter of course that growing population numbers entail an increase in municipal tasks as well. More precisely, the creation of a planning department to accommodate this development is not an autonomous decision but one that derives from administrative laws and the guidelines of spatial policy. In Germany, the responsibility for municipal tasks is politically assigned to local authorities whose population has passed a certain threshold. These thresholds vary according to the legislation in a given German state and the task to be assigned. Surprisingly, this administrative logic is not restricted to obligatory tasks only. On the contrary, as population numbers increase, voluntary public services provided by municipalities, such as theatres, museums, public swimming pools or parks, tend to expand as well.

But does this calculative routine also work the other way around? Basically it does, as the following examples from two shrinking municipalities in East Germany demonstrate. The first example considers the administrative responsibility for allocating housing benefits. It shows how population thresholds are typically employed in organising the division of labour between municipalities and counties:

> Having above 20,000 inhabitants, we only have to deal with providing financial housing assistance. All the other social welfare stuff is within the responsibility of the county. (Bolfin PER: 64)

The implicit rationale pertains not only to economic efficiency but also to the potential for professional specialisation. As municipalities have to decide in accordance with public law, detailed knowledge is necessary in order to avoid technically

[5] Note that names of places are pseudonyms in order to protect the privacy of interviewees and to avoid stigmatisation of places. A list of quoted interviews is to be found in Chap. 4 (Table 4.1).

flawed and hence contestable decisions. From an organisational perspective, it is easier to develop and sustain such detailed professional knowledge when dealing with a critical mass of cases on a regular basis. Hence, when a municipality falls below a certain population threshold, particular administrative tasks will be reallocated to the county level. However, two other examples show that there is also considerable political discretion in the allocation of administrative functions.

> As I've said, an audit office depends on size. If you have a municipality above 25,000 residents, it will probably have its own audit office. We still have one only because we had 45,000 inhabitants at the beginning [of the political transformation in the 1990s]. Smaller ones are monitored by the county audit office. (Stechwitz PER: 534)

On the one hand, Stechwitz still has an internal audit office despite its population having fallen below the given threshold for this task. Thus, the sustenance of this function is a political concession by the supervisory authorities of the state of Saxony-Anhalt to acknowledge the town's former importance in the region (in terms of population). On the other hand, another interview from Stechwitz attests to the local government showing considerable foresight by preventively cutting the political position of the deputy mayor in anticipation of further population decline:

> The political position of deputy mayor is usually appointed only in larger municipalities. When we knew that we were going to lose population to below 25,000, we left this position open. It wasn't necessary from the council's point of view. (Stechwitz SOZ: 2)

The examples support the preliminary conclusion that population numbers are used in the public sector to roughly calculate demand and supply for public services. Sometimes the results of these calculations and subsequent decisions become institutionalised, as in Germany, and constitute quite stable relationships between changes in population and the assignment of municipal tasks. In Poland, we found no evidence for such an institutionalised relationship.

Without doubt, the seemingly stable relationship between settlement size and municipal tasks can be changed by political decisions. Territorial reforms are one way to alter this relationship by institutional design. There is evidence that reformers in nineteenth-century Prussia calibrated administrative jurisdictions as early as 1815 so as to establish units with similar population sizes (Wagener 1974, pp. 100–101). Thus, these early decisions support the hypothesis of administrative concern for economies of scale based on population numbers. Later, small-sized local governments came to be viewed as beneficial to the functioning of democracy, and hence, administrative efficiency had to be weighed politically against the participative potential of smaller territorial units. During the second half of the twentieth century, the idea of efficiency in local government inspired territorial reforms in northern Europe, particularly in the UK and Sweden, leading to merging smaller units into rather large jurisdictions of local government (Norton 1997, p. 40). Throughout the 1960s and 1970s, territorial reforms in West Germany strived for economies of scale in local government as well. Yet only two states, namely, Hesse and North Rhine-Westphalia, formed relatively large consolidated municipalities (*Einheitsgemeinden*) by mergers, whereas the other West German states opted for 'soft' territorial reforms with a newly introduced tier of intercommunal bodies

(*Verwaltungsgemeinschaften*) taking on administrative tasks from their still fairly small member municipalities (Wollmann 2011). After unification, most East German states basically retained the fragmented municipal structure inherited from the communist era. The basic motivation was a consensus among East German political elites that small-scale municipalities provided a more favourable environment for the civic groups that had played an important role in bringing down the communist regime (Wollmann 2010, p. 81). However, since 1990, there have been political efforts towards consolidating local government, especially in East Germany. The number of units of local self-government has declined considerably during the last two decades in Germany: in 1990, there were 543 counties (among them 117 towns and cities with county status) and 16,128 municipalities; in 2011, only 402 counties (among them 107 towns and cities with county status) and 11,292 municipalities were left (Statistisches Bundesamt 2012, p. 29). In Poland, the former *gromads* were dissolved in 1973 and replaced by 2,365 municipalities (*gminas*). In 1999, a three-tier territorial division of the country was introduced with *gminas*, *powiats* (counties) and *voivodships* as the basic entities of local self-government. A total of 308 counties and 65 towns and cities with county status as well as 16 *voivodships* were created. This change did not affect *gminas*, of which there were 2,489. In contrast to Germany, the territorial structure of local self-government in Poland has remained fairly stable since 1999: in 2011, 314 *powiats*, 65 towns and cities with *powiat* status and 2,479 *gminas* were recorded (GUS 2012, p. 134). This stability is partially attributable to municipalities in Poland being larger on average than in Germany (2011: 15,138 vs. 7172 inhabitants per municipality [including towns and cities]).[6] Interestingly, what the earlier territorial reforms in West Germany and the more recent territorial reforms in East Germany have in common is that they seem to have been determined not by absolute administrative costs but by the relative position of the respective states in quantitative comparisons (Goetze et al. 2011). In the following part of this subsection, the analysis will focus on the role of population numbers in the reform processes in Saxony-Anhalt and Brandenburg.

Municipalities are usually reluctant to merge with one another because each unit wants to maintain its autonomy. Even cooperation between municipalities, although often advocated as an alternative solution to demographic decline (Sarcinelli and Stopper 2006), seems to be easier under conditions of population growth than under conditions of shrinkage (Pawleta 2008). Mergers and cooperation usually imply a loss of autonomy that can hardly be offset in the face of demographic decline as fewer inhabitants imply fewer financial resources (Rademacher 2013). These conditions make territorial reforms a rather complicated and politically risky endeavour. However, population numbers can be used to regulate (anticipated) conflicts between stakeholders, as the cases of territorial reforms in the two East German states show. Territorial reforms in Saxony-Anhalt and Brandenburg consisted of a voluntary and a coercive phase (Wollmann 2010). The introduction of minimum population thresholds for autonomous municipalities (5000 in Brandenburg, 10,000

[6] Our own calculation based on Statistisches Bundesamt, 2012 and GUS, 2012. For Germany, the total population number for 2010 was used.

in Saxony-Anhalt), which were to take effect in a prospective coercive phase of territorial reform, catalysed municipal mergers during the voluntary reform phase and levelled municipal protest. The following example illustrates the case of a city in Saxony-Anhalt that came into danger of losing its function as seat of the county government and hence sought to achieve a favourable position in the reform process by gaining inhabitants through mergers with other municipalities:

> The legislature [parliament of the state] has included in its explanatory statement to the draft law a subordinate clause saying that population numbers could be a relevant criterion for the seat of the county [government]. It's as simple as that. I mean that has catalysed the process of mergers significantly. As a consequence, competing cities travelled around promoting themselves [as a partner for voluntary mergers] in neighbouring municipalities. Us included. (Bolfin PER: 50)

Usually smaller municipalities are less enthusiastic about mergers than larger ones because they fear being dominated afterwards. An enquiry in Poland shows similar effects of scale on mayors' opinions towards mergers with other municipalities. The readiness to merge is lower in municipalities below a population of 20,000 than in those with populations above 20,000 (Swianiewicz and Herbst 2002, pp. 238–239). However, territorial reforms have not been a major topic in Poland since the end of communism because rather large municipalities had already been formed in the mid-1970s (Swianiewicz and Herbst 2002, pp. 238–239).

A conclusion to be drawn from this subsection is that there seem to be different traditions in the administrative use of population numbers for the allocation of administrative tasks in Germany and Poland. In our interviews with municipal representatives, it became evident that in Germany population numbers are deliberately employed for (re-)allocating administrative municipal functions. Yet only municipal representatives from East Germany explicitly referred to this institutional feature. In our interviews with their West German counterparts, this role of population numbers remained part of the taken-for-granted institutional framework of their activities—maybe because in West Germany there have not (yet) been any major territorial reforms due to demographic decline. In our interviews with Polish administrators, there is no evidence for the allocation of municipal tasks according to population numbers. Similarly to West Germany, one reason might be that there has been no attempt to re-allocate municipal tasks in the past fifteen years (Brusis 2013; Swianiewicz and Herbst 2002) and hence this institutional feature basically remains implicitly assumed. However, an equally plausible assumption would seem to be that population numbers have not been among the administrative criteria for the allocation of municipal tasks—this is at least what the existing accounts of the decentralisation process suggest (e.g., Kowalczyk 2000; Regulski 2003).

5.3.2 In-kind Calculation of Human Resources

Beyond the in-kind calculation of municipal tasks, population dynamics proved to be indirectly relevant to the staffing of municipalities. In many German states,

a certain standard relation of personnel and inhabitants is considered to be economically legitimate. This standard evolves through the communication of quantitative comparisons in professional and public discourse. Reports compiled by, for example, the audit office of a state (e.g., Landesrechnungshof Sachsen-Anhalt 1998) or by academic economists commissioned to do so (Ragnitz and Seitz 2006, pp. 199–211) compare staff-population ratios of states or municipalities. The reception of these numerical comparisons in various audiences contributes to the evolution of normative standards for legitimate staffing in public services. Such discursively established standards can become more or less formalised in public organisations. As a consequence, deviations from such an officially approved relationship have to be explicitly justified. Yet as municipal supervision in Germany is executed by the individual states, there is considerable variation in the standards for the legitimate staffing of public services. Whereas in Brandenburg, for example, the staff-population ratio is 3:1000, it is only 2.3:1000 in Rhineland-Palatinate (Giebelsdorf PER: 52).

This form of calculating staff comes closest to the Weberian ideal type of in-kind calculation as it directly relates physical units of production and consumption. There is some presumptive evidence that such forms of staff calculation were already applied in the course of the Stein and Hardenberg administrative reforms in 1815 (Wagener 1974, pp. 100–101). In recent years, this form of calculating staff has clearly become more widespread under the impact of the global new public management discourse. Moreover, it can be assumed that demographic decline fosters such an economic perspective on human resource management. The following examples show how municipal administrators' accounts reflect the significance of declining population numbers for personnel policy. The mayor of a growing municipality on the outskirts of Berlin describes the process of rebuilding its personnel structure on the basis of the in-kind criterion, as defined by the state of Brandenburg, in terms that indicate an unquestioned organisational routine:

> We have always envisioned a benchmark of three staff members in general public administration per 1000 inhabitants. That has been our guideline. (Bautenbach-Feldow BM: 8)

Despite this standard being highly contingent on political decisions, it nevertheless addresses social expectations toward the legitimate number of personnel in public service administration. Therefore, it is not surprising that declining population numbers are perceived to be a relevant criterion for the personnel strategies of municipalities. Drawing and communicating comparisons between public organisations in terms of staff sizes generates pressure for municipalities above a certain benchmark to downsize. The following example cites the mayor of Linten, an East German city that lost 18 % of its population between 1994 and 2005:

> We will always suffer from retrenchment simply because we are expecting less and less population. Our aim will be to maintain the staff-population ratio that we actually have [in comparison to the other cities with county status in Saxony-Anhalt]. That is, if the statistical office says that we have 236,000 citizens now, and in 2015 there will be only 210,000, we will adjust our personnel accordingly. (Linten BM: 37)

On first glance, the Linten mayor's account seems to illustrate a rather submissive stance toward the predefined human-resource benchmarks—in reality, the process of staff adjustment is far more controversial (see also Chap. 6). Additionally, we must also bear in mind that the mayor is seeking legitimacy for this statement (from an unspecified public represented in this face-to-face situation by the academic interviewer):

> We started at 5573 in 2000 and have now arrived at 3285 [staff members]. That sounds very good. But if we consider our [formal] privatisations [of public services], we have actually moved to 4300. We made a projection: in 2015, we plan to have only 3000 instead of 3200 within the core administration. (Linten BM: 11)

Despite these possible limitations, a time horizon of approximately 10 years for the municipal human-resource strategy to align staff numbers with demographic projections is remarkable, especially when compared to the competing time horizons of the budgetary process or the election cycle. Hence, this might indicate that demographic decline supports strategic decision making in municipalities—which is not self-evident in public administration.

The stakeholders of municipal human resource management who are 'outside of' the local administration, namely, (local) politicians and supervising authorities, are particularly inclined to use population numbers in managing principal-agent relations. In the face of demographic decline, the basic role conflicts of local politicians seem to become even more pronounced: on the one hand, local politicians come under pressure from supervisory state authorities calling for greater economic efficiency in municipal administration; on the other hand, they suffer from a considerable lack of information and professionalism compared to the municipal administration they are faced with (Reiser 2006). In this dilemma, a simple calculative device such as staff-population ratios renders human resource management transparent even to those 'outside of' the local administration. An account given by the human resource manager in a shrinking city in East Germany supports this interpretation:

> For politicians, the issue was always simple. They've always said: 'Less people means less personnel.' That's it! Thus, the fewer inhabitants, the fewer staff members. (Bolfin PER: 30 f.)

From this subsection we might conclude that demographic decline becomes relevant to municipal human resource management via what appears to be a rather long-standing tradition of in-kind calculation of administrative staff capacities. The rationalisation of human resources has recently been reinforced by the professional and public communication of comparisons in terms of staff-population ratios. The resulting pressure to downsize municipal staff capacities is transmitted by supervising authorities on the one hand and local government politicians on the other. In our interviews, this pressure became most obvious in East Germany, where staff-population ratios are still slightly higher than in West Germany, although the economic situation is worse. In Poland, staff-population ratios were not mentioned as a criterion for (restrictive) municipal human resource management. This might be due to the fact that the process of task devolution to local self-government took considerably longer in Poland than in East Germany, thus partially offsetting reduced

staffing needs resulting from demographic decline. Furthermore, after the accession to the European Union (EU), many municipalities in Poland were preoccupied with establishing new positions or even new departments to enable them to take advantage of newly available EU subsidies.

5.3.3 Intergovernmental Fiscal Relations

In a functionally differentiated society, organisations typically depend on money in order to perform their tasks and conclude the work contracts with individuals that allow them to do so (Luhmann 2013). Therefore, even state organisations that primarily rely on calculation in kind have to acquire appropriate financial resources. According to the (normative) economic principle of fiscal equivalence, municipalities would ideally be able to generate all the necessary revenues for their tasks autonomously (Novoa et al. 2003, p. 20). In reality, this is rarely the case. Instead, the complex political institutions that govern intergovernmental fiscal relations determine different sources of municipal revenues, over some of which municipalities have more discretion than over others. Moreover, institutions of intergovernmental fiscal relations vary among countries. Concerning the autonomy of municipalities in terms of revenues, a rough distinction can be made between a municipality's own independent revenue, such as fees and taxes that are generated within the municipal jurisdiction proper, and transfers such as grants or subsidies received from other government bodies (Stegarescu 2005, pp. 309–310). Whereas certain parts of this independent municipal revenue seem to depend primarily on the economic situation of a municipality (and the surrounding region; e.g., corporate and real estate tax), other types of taxes (e.g., individual income tax and value added tax) and fees additionally depend on population numbers (Bach et al. 2002). Grants and subsidies from other governmental units are allocated according to politically defined criteria. While some of these grants are earmarked for certain tasks, others are transferred for general purposes of local government and hence allow municipalities more discretion.

Equalisation schemes in Germany and Poland show remarkable differences in terms of the relevance of demographic change. In Germany, population numbers are a key indicator for the allocation of general-purpose grants (Scherf 2010). Their aim is to equalise tax revenues among the municipalities in a given state. In calculating tax allotments, the inhabitants of larger municipalities are weighted slightly higher than those of smaller ones (*Einwohnerveredelung*) in order to account for the centrality functions of larger settlements (Münstermann 2007). The argument for such weighting—dating back to the interwar period (Popitz 1932; Brecht 1941)—points to the greater accumulation of social problems and hence disproportionately higher spending needs in larger settlements. Not incidentally, this population-based aspect of the municipal redistribution scheme was transferred to other administrative levels of the Federal Republic of Germany in the 1950s for the regulation of the fiscal relations between the states (*Länder*) and the federal government (*Bund*)

Table 5.1 Average shares of municipal revenues by type of revenue in East Germany, West Germany and Poland (1995–2009). (Source: translated from Bartl, 2011, p. 311)

	East Germany (%)	West Germany (%)	Poland (%)
Taxes	17.5	38.5	37.5
Intergovernmental transfers	56.8	28.9	43.0
Fees	9.0	13.5	2.3
Other	16.7	19.1	17.2
Total revenues	100	100	100

(Hidien 1999). An important reason for choosing this particular indicator for the comparative estimation of financial potency and abstract identification of distributive needs was that it promised to capture structural features of jurisdictions that are assumed to be beyond political discretion. The individual states did not want to become dependent on political coalitions at the federal level. In Poland, other criteria determine the allocation of general-purpose grants. The largest part is based on educational indicators such as student numbers and teacher wages. A smaller part is reserved for equalising tax revenues among municipalities (Kopańska and Levitas 2004). Whereas German equalisation schemes take settlement structure into account only indirectly, the equalisation scheme in Poland is based on a rural-urban distinction that slightly favours rural municipalities over large cities (Bury 2001; Bury and Swianiewicz 2002, 2008).

If we compare intergovernmental relations in West Germany, East Germany and Poland by types of revenue (Table 5.1), the economic structure of a municipality seems to be most important in West Germany and Poland. In both cases, around 38% of municipal revenues derive from taxes related to the local economic base, whereas such taxes account for barely 18% of municipal revenues in East Germany. The most important tax for municipalities in Germany is the local business tax (*Gewerbesteuer*) followed by individual income tax and the tax on local real estate. Income tax and real estate tax are the two most important taxes for municipalities in Poland, whereas local business taxes are of lesser significance (Bartl 2011, p. 311). Somewhat complementary is the picture when we look at redistributed financial resources: East German municipalities receive almost 57% of their revenues from intergovernmental transfers, whereas such transfers account for less than a third of the municipal revenues in West Germany. In Poland, intergovernmental transfers make up 43% of municipal revenues, which is an intermediate percentage in the present context. The share of government grants increased during the process of decentralisation in Poland (Kopańska and Levitas 2004); one reason being the expansion of the education system (see Chap. 7).

How are these institutional features of intergovernmental fiscal relations reflected in the perceptions of local decision makers? As a first conclusion from the analysis of the fiscal institutions in Germany and Poland, it can be assumed that municipalities in East Germany will perceive population decline as more relevant to their affairs than those in the other two regions. The share of transfers based on population numbers as the main criterion of allocation is highest in their revenue

mix. Although intergovernmental transfers based on population numbers play a role in West Germany as well, the economic situation of municipalities in this region has been far better than in the East, which is reflected in a higher share of revenues from their own independent sources (taxes and fees). While the share of government funding in Poland is in between the levels received by municipalities in East and West Germany, population numbers do not play a major part in regulating intergovernmental fiscal relations there; thus, population decline will probably not be perceived to be of major importance to municipal affairs.

Our analysis of the expert interviews with municipal decision makers largely supports the assumptions that we have derived from our study of the institutional features in the three contexts of comparison. In our interview analyses, we took into account that—in accordance with phenomenological and pragmatist theories—only problematic aspects of the world become reflexive. Empirically, most of the German decision makers whom we interviewed seem to take the relationship between inhabitants and municipal revenues for granted. Only a few interviewees from East Germany mention this crucial connection explicitly. Among them are the following two examples that confirm the expected demographic vulnerability of municipal revenues:

> Let me put it like this: the more inhabitants a city has, the more funding it can expect to receive from the state. (Stechwitz PER: 243–271)
> Yes, of course we pay attention to this population dynamic. It takes on quite dramatic forms because it has several consequences. Practically, with every inhabitant [that we lose], we receive less money from the state. That is really a harsh loss… I think we are going to pay heed to these obvious population losses by planning social infrastructure accordingly. (Talstedt SOZ: 31)

Interestingly, the two interviewees mention only the politically institutionalised part of the connection between population numbers and municipal revenues but not the relationship mediated through the economic activity of the population. Their framings of the situation show indirectly that German municipal equalisation schemes set incentives for population growth as the number of inhabitants is institutionally linked to the allocation of intergovernmental transfers. Consequently, demographic decline is interpreted as a loss. With fewer inhabitants, municipalities come under pressure to either tap alternative sources of revenue or cut expenditure. In West Germany, population numbers are not mentioned explicitly as a criterion for the regulation of intergovernmental fiscal relations. It might be that local decision makers in the western part of the country (still) deny the fact of revenue losses since population decline is still lower there than in East Germany. This might, however, also be due to the fact that demographically shrinking municipalities in West Germany are still economically better positioned than those in the East German states. In Poland, population numbers are only rarely mentioned as being relevant to municipal revenues; interestingly, this is so even though this criterion has been institutionalised by supranational EU legislation:

> Here in Kołowina population numbers have declined. Formerly we had 20,000, now we have only 18,000. And thus we now fall into another city classification bracket than before. Now we are a larger city among smaller ones, which works to our advantage benefits us with respect to the allocation of money from the European Union. (Kołowina BM: 39).

As the account of the mayor of Kołowina shows, the institutionally established relationship between population numbers and municipal revenues is not linear. To the contrary, the allocation of EU funds according to a classification system based on population size can turn a population loss into an advantage because after passing below a certain threshold the remaining inhabitants are weighted higher and thus generate more incoming transfers. Remarkably, interviewees in Poland do not mention that the largest allotment of intergovernmental subsidies is assigned according to educational indicators such as student numbers. Theoretically, this mode of allocation can decouple revenues resulting from subsidies from demographically declining cohort sizes to a slight degree, although not completely. In the context of compulsory schooling, the openness of school districts and educational behaviour, for example, are intervening factors in this respect (on demographic cohort size and educational demand, see also Chap. 8). Yet these minor intervening factors do not fully explain why our interviewees did not consider smaller cohort sizes as a fiscal loss at all. Two explanations seem to be plausible: firstly, during the ongoing decentralisation process in Poland, there has been quite a steady growth in aggregate municipal revenues; secondly, Poland's accession to the EU has provided municipalities with substantial additional funding. Consequently, decentralisation and the EU accession probably concealed losses in municipal subsidies incurred from demographic change during the period analysed. However, recent public debates suggest that Polish municipalities are increasingly experiencing financial problems.

From this subsection we can conclude that particularly the political regulation of intergovernmental fiscal relations based on population numbers generates an administrative interest in population dynamics as a factor of relevance. This is not only true for the municipalities as addressees of intergovernmental transfers but also for the authorities in charge of supervising local government such as the *Kommunalaufsicht* in Germany or the Regional Audit Office (RIO) in Poland. The following subsection will investigate in quantitative terms the relative importance of population numbers to municipal revenues in East Germany, West Germany and Poland.

5.4 Demographic Responsiveness of Local Government Revenues in Germany and Poland

Our qualitative analysis of expert interviews has shown that municipal decision makers—especially in East Germany—perceive population numbers to be highly relevant to municipal revenues because Germany allocates intergovernmental transfers according to this criterion. However, population numbers can theoretically be expected to have an additional impact on municipal revenues beyond equalisation schemes (Bach et al. 2002). We can expect the impact of population numbers on the total amount of independent revenues from a municipality's own sources (i.e., taxes and fees) to be at least equally important. Yet this aspect was not mentioned by our interviewees. One reason could be differences between the institutionalised regimes of intergovernmental fiscal relations in the three regions analysed (*fiscal*

federalism hypothesis). Therefore, a quantitative analysis was conducted in order to compare the demographic responsiveness of municipal revenues in East Germany, West Germany and Poland.

5.4.1 Empirical Strategy: Panel Analysis

The basic hypothesis on the demographic responsiveness of municipal revenues claims to account for changes over time that are conditioned on specific institutional settings. Hence, the strategy of empirical investigation has to take into account variation within the territorial units analysed as well as time-constant differences between those units. When focal units are measured at several points in time, as in the compiled dataset, the observations of each territorial unit can no longer be treated as independent as in ordinary least square regressions (OLS). Otherwise the 'true effects' of independent variables would be misrepresented due to unobserved differences between focal units (in the present article, for example, time-constant differences between the city of Munich in Bavaria and the city of *Zweibrücken* in Rhineland-Palatinate or between East Germany, West Germany and Poland). The most comprehensive control of heterogeneity can be achieved using fixed effects models with a clear focus on changes within observations of the same macro unit (Allison 2009). Time-constant characteristics of macro units can be controlled by group-mean centring: observed values of a macro unit are demeaned, and only deviations from the group mean enter the equation. In this way, the unobserved unit-specific error is eliminated from the model (Brüderl 2010, p. 973):

$$y_{it} - \overline{y}_i = \left(x_{it} - \overline{x}_i\right)' \beta + \left(\varepsilon_{it} - \overline{\varepsilon}_i\right).$$

For the analysis of change, the use of within estimators is considered to be the most appropriate strategy. An almost equivalent way is to use dummy variables for each macro unit (Gießelmann and Windzio 2012). Whereas the first method is more appropriate when heterogeneity among many macro units is to be controlled for, the latter can be applied when only a few macro units exist. Hence, in the present chapter the first method is applied in order to control for differences among cities, and the second is applied in order to control for differences between East Germany, West Germany and Poland.

5.4.2 Data Sources and Coverage

Data for the quantitative analysis were acquired from the Regional Database Germany and the Local Data Bank Poland,[7] the first being provided by the Federal Statistical Office and the statistical offices of the German states, the second by the Central Statistical Office of Poland. Some control variables were additionally complemented using data from other publications by the statistical offices of Germany

[7] Download from www.regionalstatistik.de and www.stat.gov.pl.

and Poland (summary statistics of the variables used are provided in the online appendix).

Municipal data were available at the level of counties and cities with county status. With municipal revenues being the focus of analysis, this meant that information on individual municipalities was available only for cities with county status; data on municipalities belonging to a county were available only in aggregate form at the county level. Therefore the following analysis will be restricted mainly to cities with county status. Furthermore, the research focus on revenue changes required longitudinal data. Relevant information was available for the period from 1995 to 2010. Due to territorial reforms in East Germany and missing data as a consequence of a change in the municipal accounting system of some West German states, the compiled panel data set is slightly unbalanced (online appendix, Table A5.1). Furthermore, the German data does not include the city states Berlin, Bremen and Hamburg, as it is not possible to differentiate between municipal and state revenues in these cases. In Poland, the city of Warsaw was excluded from analysis due the annexing of various satellite cities in the sample period (Swianiewicz and Lackowska n.d.) causing implausible breaks in the time series. Overall, the analysed data contains 2746 observations on 177 cities with county status in Germany and Poland. The cities analysed accounted for about 25% of the German population (82.3 million) and about 29% of the Polish population (38.1 million) in 2006.

5.4.3 Operationalisation of Variables

The demographic responsiveness of municipal revenues was analysed using total revenues of municipalities with county status as the dependent variable. In order to make the data comparable between Germany and Poland, we transformed raw data into purchasing power parities for the EU-27 countries (PPP-EU27, in millions), with transformation factors obtained from Eurostat (Burg 2011, pp. 792–793). Demographic change was operationalised using total population numbers of each municipality (in thousands of inhabitants) as an independent variable. The total population of a city was measured in thousands of inhabitants.

The impact of demographic change was investigated while controlling for different institutional settings and economic situations in East Germany, West Germany and Poland. The particular institutional contexts of the cities with county status were accounted for by using indicator variables taking on the value of 1 in the respective context of comparison. The impact of demographic change and control variables being conditional upon institutional settings was modelled using interaction terms (Jaccard and Turrisi 2003). Note that in fixed effects models the effect of the constant dummy variable is captured only in the interaction term since time-constant differences between macro units are not of theoretical interest. Furthermore, the relative importance of municipalities in the state structure was operationalised by constructing a fiscal decentralisation index (Blume and Voigt 2011, p. 243; Aristovnik 2012). This index measures the share of municipal expenditure in national GDP in a given year. However, since the fiscal decentralisation index com-

pounds two dimensions (municipal expenditure *and* GDP) that may vary independently of each other, an alternative operationalisation of the decentralisation process in Poland was tested as well. To this end, the years since the decisive reform of local self-government in 1998 were coded with a dichotomous variable taking on the value of 1, whereas it remained 0 for previous years and for the other two contexts of comparison. Complementary to this dummy variable, Poland's accession to the EU in 2004 was coded in the same way so as to capture additional subsidies from the EU. Last but not least, the economic situation of a region was controlled for by using the gross domestic product (GDP) at state and *voivodship* level respectively. In line with the transformation applied to municipal revenues, GDP was measured in billions of PPP-EU27 (Burg 2011).

5.4.4 Empirical Results

The *fiscal federalism hypothesis* to be tested suggests a positive relationship of population numbers and municipal revenues mediated by the respective institutional setting. Due to limitations of space, the presentation of results in this subsection will focus exclusively on panel regressions. Descriptive evidence can be found in the online appendix.

In a first step, a simple model was specified: Model 1 (Table 5.2) contains the total population as an independent variable that is conditioned on the particular context of comparison (Jaccard and Turrisi 2003). It shows a statistically significant and positive effect of population numbers in West Germany, whereas this population effect is positive but not statistically significant in East Germany and, surprisingly, negative but statistically significant in Poland. Hence, only in the context of West Germany does the proposed demographic responsiveness of municipal revenues seem to exist in a statistically significant sense. Nevertheless, it is remarkable that even though Model 1 is very simple, the determination coefficient across time shows that it accounts for 30 % of the observed variance (R^2 within = 0.30).

Before we interpret these results in depth, it seems useful to check whether the effects remain stable when plausible control variables are added to the model. The expanded Model 2 controls for the economic development in West Germany, East Germany and Poland using the GDP at the state and voivodship level, respectively, as an indicator. It can be assumed that there is a positive relationship between economic development and changes in municipal revenues. The results indeed support this view. The effect of changes in GDP is positive and statistically significant in all three contexts of comparison. Consequently, the explanatory power of the model across time rises to 44 %. Somewhat unexpectedly, the strongest effect of GDP is recorded in East Germany and the weakest in West Germany. Since the analysis of types of municipal revenue (Table 5.1) shows the highest share of municipal revenues from the municipalities' own independent sources in West Germany, we expected the effect of changes in GDP to be highest in this region, which is not the case. We found the effect to remain stable even if total revenues are broken down into independent local revenues and external transfers (online appendix, Tables A5.4

Table 5.2 Demographic responsiveness of municipal revenues in West Germany, East Germany and Poland (1995–2010)

	Model 1	Model 2	Model 3	Model 4
	Total revenues of cities with county status			
Total population *West Germany	10.80***	10.15***	10.28***	10.15***
Total population *East Germany	2.30	2.41**	2.26**	2.41**
Total population *Poland	−7.37***	−4.69*	−4.10*	−3.75*
GDP *West Germany		1.07***	0.97***	1.07***
GDP *East Germany		4.21***	4.40***	4.21***
GDP *Poland		3.36***	0.90	0.74
Decentralisation index *West Germany			−11.78	
Decentralisation index *East Germany			6.09	
Decentralisation index *Poland			43.22***	
Decentralisation laws in Poland (years > 1998)				42.33***
EU accession of Poland (years > 2003)				53.24***
Intercept	−232.71	−561.64*	−680.50**	−609.94**
Observations	2746	2746	2746	2746
R^2 within	0.30	0.44	0.46	0.46
R^2 between	0.53	0.61	0.67	0.65
R^2 overall	0.50	0.58	0.64	0.62

$^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

and A5.5). A plausible explanation for the three- and fourfold effect, respectively, of GDP in Poland and East Germany as compared to West Germany is that the economic development of these postcommunist regions started from a much lower level and hence allowed for higher growth rates (online appendix, Fig. A5.7). These time-constant differences do not affect the chosen fixed effects estimators because they are captured by the regional dummy variables. Apart from that, Model 2 also bears interesting results on the effects of total population. In Model 2, the regression coefficients for this variable are statistically significant in all three regions; their relative magnitude, however, remains unchanged compared to the first model. The negative effect of population numbers in Poland still contradicts the theoretical assumption of this chapter and needs further clarification.

To clarify this, Model 3 additionally controls for the degree of fiscal decentralisation in the three regions, which is operationalised as the percentage of municipal expenditure in the national GDP (for details, see the online appendix). Recall that

in fixed effect models only variations across time come to bear. The most evident result of Model 3 is that the decentralisation index has a strong and statistically significant effect only for Poland. The obvious effect for Poland is not such a surprise because the devolution of state tasks in East Germany took place at the beginning of the 1990s and no major decentralisation reforms have been recorded since. The latter is also true for West Germany during the sample period. The effects of total population remain stable when fiscal decentralisation is controlled for. However, the positive effect of economic growth in Poland diminishes considerably and—even more remarkably—loses its statistical significance. The explanatory power of Model 3 for changes across time increases to 46%.

Whereas the fiscal decentralisation index used in Model 3 might be difficult to interpret because it compounds two different dimensions (municipal expenditure and national GDP), Model 4 pursues an alternative path to capture the growing importance of municipalities in Poland during the period analysed. Instead of the fiscal decentralisation index, two dummy variables were included in the model: one to indicate the passing of major laws on local self-government in 1998; the other to represent Poland's accession to the EU, which opened new sources of revenue for Polish municipalities. Most importantly, Model 4 shows no major changes in the regression coefficients produced by Model 3, and the determination coefficient for explained variance across time remains exactly the same. Hence, the obtained results seem to be valid and can finally be interpreted in more detail. In West Germany, changing population numbers have a positive effect on municipal revenues: Model 4 predicts that a change by 1000 inhabitants will lead to a change in municipal revenues by 10.15 million PPP-EU27 in the same direction. In East Germany, the predicted effect is positive as well but on a significantly lower scale: a change by 1000 inhabitants is predicted to account for a change by only 2.41 million PPP-EU27. By contrast, the population effect is predicted to be negative in Poland: a change by 1000 inhabitants can be expected to lead to a 3.75 million PPP-EU27 change in municipal revenues in the opposite direction. Now, whereas the West and East German contexts support the basic assumption of the present chapter, the Polish case does not. This result is largely in line with the evidence from the expert interviews. They show that shrinking municipalities in East Germany typically frame demographic decline as a problem, whereas their counterparts in West Germany do so to a lesser degree, and in Poland not at all (Chap. 6). The quantitative results therefore confirm that the impact of demographic change on municipal revenues is mediated by the institutional setting (*fiscal federalism hypothesis*). Particular regimes of intergovernmental fiscal relations link population numbers to processes of resource allocation, which in turn shape the administrative perception of demographic change—in our case of demographic decline.

If we further break down municipal revenues into independent revenues and intergovernmental transfers (online appendix, Tables A5.4 and A5.5), the basic results remain the same. When independent revenues are used as a dependent variable, the population effect for Poland is negative and statistically significant. With intergovernmental transfers as the dependent variable, the effect of population numbers is still negative in Poland but statistically not significant. In the two German regions, the population effect on intergovernmental transfers is higher in East Germany than

in West Germany, which highlights the importance of intergovernmental transfers in East Germany (Table 5.1). Furthermore, the population effect in both German regions is higher for independent revenues than for intergovernmental transfers. Consequently, the effect of changing population numbers on municipal revenues in Germany is mediated to a higher degree through the economic activity of the population than through intergovernmental transfers. For Poland, it has to be stated that during the period analysed, the effect of population numbers on municipal revenues seems to be entirely concealed by the (fiscal) decentralisation process. The growing shares of municipalities in personal and corporate income tax in particular account for blurring the theoretically expected consequences of demographic change. Even the positive effect of economic growth (as measured by changes in GDP) loses its statistical significance when the models control for the decentralisation process (Table 5.2, Models 3 and 4; see also the online appendix). Hence, since the observed negative effect of population numbers in Poland seems to result from a spurious relationship, further research is necessary in order to identify the 'real' population effect on municipal revenues.

5.5 Conclusion

From this chapter we can conclude that calculation in kind and intergovernmental fiscal relations mediate the impact of demographic change on municipal revenues to a considerable degree. Calculation in kind based on population numbers is applied in the allocation of municipal tasks, in the rationalisation of human resource management, and in the regulation of intergovernmental fiscal relations. This is in line with the basic assumption of this chapter (*calculation in kind hypothesis*). More precisely, population decline exerts economic pressure on municipalities (*fiscal federalism hypothesis*). Local decision makers perceive this pressure to be most pronounced in East Germany and attribute it to the decreasing amount of intergovernmental transfers. However, this perception tells only half of the story. Our quantitative analysis has shown that the impact of changing population numbers is significantly stronger on independent municipal revenues than on intergovernmental transfers. For municipalities as part of the political system, the highly visible political responsibility for intergovernmental transfers seems to be more salient than the more complex relationship of population numbers and independent revenues. From a practical point of view, our results emphasise that municipalities should pay more attention to the effect of changing population numbers on their *own independent* revenues. This argument is further supported by the fact that economic development has the strongest effect on the municipal revenues of the East German cities in the sample analysed. In West Germany, the effect of population decline on municipal revenues was not perceived as a problem. This is somewhat surprising since our quantitative analysis identified the strongest effect of population changes on municipal revenues in the West German cities. The neglected relevance of population changes in our interviews is probably attributable to the fact that municipal decision makers in the West (still) perceive local public revenues to depend exclusively on

the local economy. Concerning *time-constant* differences between the analysed regions, this view is not completely inaccurate because of the relatively high level of GDP in West Germany compared to the two postcommunist regions. However, this simplified and static view is misleading when *changes across time* are considered. It is likely that perceptions will change once demographic decline becomes more pronounced in West Germany, as has been projected for the near future (Bucher and Schlömer 2008). In Poland, municipal decision makers did not perceive population decline to be a major challenge in 2006 because its (theoretical) impact seems to have been offset by the decentralisation process and the Polish accession to the EU. In line with these local perceptions, the panel analysis could not identify a valid statistical effect of population numbers on municipal revenues in Poland. However, there has recently been public debate on the financial problems of municipalities in Poland, which we cannot cover here. Further research could help to clarify the 'real' demographic responsiveness of municipal revenues in Poland in the context of more current developments.

Electronic Supplementary Material

The online version of this chapter (doi:10.1007/978-3-319-10301-3_5) contains supplementary material, which is available to authorized users. Caption of the data object (Excelfiles.zip 711 kb)

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Chapter 6
Coping with Demographic Decline in German and Polish Municipalities

Abstract Contrary to popular portrayals of 'demographic change as destiny', the responses of local governments can be expected to vary according to particular institutional settings. The aim of this chapter is to systematically compare frames and coping strategies across the expert interviews conducted in 21 municipalities sampled from West Germany, East Germany and Poland. Of special interest are perceptions of demographic problems and coping strategies related to the personnel policy of a municipality. To further sharpen the focus of our analysis, special attention is given, firstly, to early childhood education and care services (day nurseries and nursery schools) and, secondly, to general local government administration. It is likely that problems of demographic decline will be more salient in the field of early childhood education and care than in general public administration. The chapter also takes a closer look at possible second-order problems arising from particular local coping strategies since in times of declining resources internal labour markets can be expected to interrupt or slow generational turnover. However, although labour market theories enable us to formulate a hypothesis on what kind of personnel management instruments to expect in the context of municipal retrenchment strategies in situations of demographic decline, existing research on public sector organisations coping with demographic change is still inconclusive about whether we should expect municipalities to apply retrenchment strategies at all or perhaps some other forms of adaptation instead. Therefore the nature of this chapter is more exploratory than confirmatory.

6.1 Introduction

As became evident in Chap. 5, demographic decline is translated into an administrative problem for municipalities through institutional mechanisms of in-kind calculation and intergovernmental fiscal relations: it decreases financial resources, increases the benchmark of efficiency for personnel policy, lessens the symbolic power attached to resident numbers in the political process of territorial reforms and

Author: Walter Bartl

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so forth. However, the impact of population numbers on municipal revenues differs between institutional contexts. Similarly, the framing of demographic decline and coping strategies can be expected to vary among municipalities according to the particular institutional settings in West Germany, East Germany and Poland. The aim of this chapter is to systematically compare frames and coping strategies across the 21 municipalities sampled for our expert interview study (see Table 4.1).

Of special interest are perceptions of demographic problems and coping strategies related to the personnel policy of a municipality. The labour intensity of municipal tasks would lead us to expect demographic decline to be reflected in personnel policy. Personnel policy in this case refers not only to policies in the sense of statements of intent but also to the actual practices of human resource management. Personnel policy seems to be a fruitful focus of analysis because labour costs constitute a considerable share of municipal budgets. In Germany, for example, personnel expenses make up more than a quarter and in Poland more than a third of total municipal spending (Bartl 2011, p. 309). Since modern bureaucratic organisations require a continuous inflow of monetary resources to remunerate their staff, the size of the municipal workforce can be said to reflect a municipality's aspirations. On the one hand, municipal revenues become increasingly scarce when population numbers decline. On the other hand, personnel flexibility is not very high because of institutional features of municipalities as internal labour markets with long-term labour contracts and a commitment to the guiding idea of being 'exemplary employers' (*internal labour market hypothesis*, Chap. 3). In situations of declining resources, internal labour markets can be expected to interrupt or slow down generational turnover for a certain period rather than to lay off people in the short term (Lutz 2000; Reineke 1987). As a consequence, the demographically induced gap between aspirations and resources might widen over time. Therefore, the chapter will also take a closer look at possible second-order problems arising from the typical ways of coping with demographic decline in internal labour markets. However, while labour market theories enable us to formulate a hypothesis on what kind of personnel management *instruments* to expect in the context of municipal retrenchment strategies in situations of demographic decline, existing research on public sector organisations coping with demographic change is still inconclusive as to whether we would have to expect municipalities to apply retrenchment strategies *at all* or perhaps some other forms of adaptation instead. Therefore the character of this chapter is rather exploratory than confirmatory.

To further sharpen the focus of our analysis, special attention will be given, firstly, to early childhood education and care services (day nurseries and nursery schools) and, secondly, to general local government administration. Whereas the first represents an age-specific service, the second targets all age groups in similar ways. It is likely that problems of demographic decline will be more salient in the field of early education and care than in general public administration.

The structure of this chapter is as follows. The next part of the chapter will briefly sketch the analytical categories used to classify the municipal framing and coping strategies that we have reconstructed from our expert interviews in Germany and Poland. Sections 6.3 and 6.4 will describe the frames and coping strategies that

are typically connected to one other, whereas Sects. 6.5, 6.6 and 6.7 will describe the frames and coping strategies with no obvious relationship to each other. Section 6.8 will depict second-order problems arising from the specific ways of coping in internal labour markets. Section 6.9 presents our conclusions.

6.2 Comparing Municipal Framing and Coping Strategies

In order to compare expert interviews across different organisations and institutional contexts, some abstract criteria defining the property space of analytical results are necessary (Barton 1957). We distinguish four frames of demographic problems and four ways of coping, which in certain cases correspond with each other (Chap. 3).

Growth frames focus on economic resources, with a tendency to neglect demographic influence on the situation. These frames suggest a high collective efficacy of social units; hence, they are likely to pave the way for expansive coping strategies aimed at (re)gaining resources through the provision of new services. Some theories state that growth frames and expansive strategies of urban development are quasi-natural features of localities (Molotch 1976). *Demographisation frames* focus on demographic developments with a tendency to downplay other relevant aspects of the problem in order to lower collective aspirations. Drawing attention exclusively to negative demographic developments supports the extrapolation of demographic trends to other social realms (Barlösius 2007). When reality is framed as being beyond the reach of actors, this enhances their acceptance of circumstances (Douglas 2011). Consequently, regaining agency through a reduction of aspirations becomes more likely. According to our operational definition of aspirations at the organizational level, this would imply staff downsizing as a coping strategy. Growth frames and expansive strategies on the one hand and demographisation frames and reductive strategies on the other are likely to be quite closely linked to each other because this kind of tight coupling is likely to be implied in institutionalised scripts and the routines of organisational agency.

Realistic frames pay attention to demographic developments but do not overestimate their influence while they consider the resources available for coping at the same time. Establishing realistic frames takes more time than establishing routine frames because the former take multiple aspects of a problematic situation into account. But they are also probably the most open to subsequent coping strategies. The same openness can be claimed for reorganisation strategies. Usually reorganisation strategies are understood to change an organisation's leadership and management arrangements (Boyne 2006). Since they often complement the typical turnaround strategies that rely on expansion or reduction, it is sometimes questioned whether they can make genuine contributions to overcoming decline. However, only reorganisation *within* organisations seems to be taken into account. Moreover, this perspective seems to be normatively biased towards the expectations of organisational growth typical of the private sector. From our perspective

on public service production within a certain territorial jurisdiction, it seems to be more useful to define reorganisation strategies as implying a change in the division of labour *between* individual organisations. This definition covers changes in the governance of organisations involved in public service production such as privatisation, cooperation, separation or integration of organisations since they focus on aspirations and resources simultaneously without necessarily implying a reduction or expansion of service provision. In a situation of demographic decline, the simple maintenance of a given service level is often quite challenging and requires innovative organisational solutions.

Denial frames (temporarily) ignore that there is a discrepancy of aspirations and resources to be re-equilibrated (Greve and Strobl 2004). An overly rationalist perspective would lead us to expect that denial frames cannot support adequate coping strategies or that coping logically depends on preceding acknowledgment of a problem. For example, frames strongly centred on economic growth might lead to denying that the difficulties a municipality is experiencing might have demographic causes. It seems to be irrational to ignore demographically induced erosion of municipal revenue over a longer period of time since this might increasingly restrict local response capacities. However, we want to emphasise that ignorance of demographically induced problems might also be the result of a deliberate prioritisation of problems. A response pattern characterised by non-reaction has been termed threat rigidity. This lack of reaction might be due to institutional constraints but can also be the result of past organisational experiences with failed responses or organisational (demographic) dynamics. Yet it is questionable whether the category of threat-rigidity responses is empirically relevant (see also Chap. 3).

These two sets of four categories each structure the analytical property space for organisational frames and coping strategies respectively. As a consequence, 16 logical combinations are possible. The complexity indicated by this range of potential combinations by far exceeds what the available theoretical knowledge on public organisations coping with demographic change has to offer so far. For this reason, the present chapter does not seek to confirm or falsify specific hypotheses but rather sets out to check the empirical relevance of the logically possible combinations of frames and coping strategies and looks for explanations for their occurrence. The categories laid out above are used in the sense of ideal types in order to better grasp the heterogeneity of the empirical cases and to avoid the oversimplifications that sometimes accompany international comparisons (Crouch 2005, pp. 68–71).

6.3 Growth Frames and the Expansion of Public Services

Some theories of urban development state that a focus on growth is the quasi-natural perspective of any locality (Molotch 1976). Such a perspective would lead us to expect little variation in frames of and responses to demographic decline. Empirically this is not the case. Growth frames and expansive coping strategies played a dominant role in our interviews with local administrators in shrinking munici-

palities in West Germany (Dahrenberg, Giebelsdorf) and Poland (Goromierz, Buciszewo, Kołowina) but not in East Germany.[1] More often than not growth frames and expansive strategies of urban development are so tightly linked to each other in our expert interviews that quotations taken from these interviews would become intuitively less intelligible were we to cite one without making reference to the other. Therefore we decided to separate our discussion of frames and coping strategies only analytically and not at the level of the interview material presented.

6.3.1 Maintaining "Skilled Employment"

Concerning the overall urban development of Dahrenberg, a town which lost 7% of its population between 1994 and 2005, the mayor saw his town and the surrounding county "severely hit by the demographic factor". As a consequence he emphasised the aim to maintain "high-skilled employment positions" in the region as long as possible. The "emigration of youths" was supposed to be stopped by municipal economic policy, which he described extensively, while he called on the state of Rhineland-Palatine to improve the regional infrastructure (Dahrenberg BM: 37). This local growth frame is a manifestation of a highly generalised orientation among local authorities propagated especially by West German regional policies in the 1960s. At the level of institutional childcare, this orientation toward problem solving through growth is further supported by political programmes of superordinate state authorities encouraging the local expansion of early childcare (see Sect. 6.3.2).

The mayor of the second shrinking, more rural West German town in our study, Giebelsdorf, also applied a growth frame focused on (lacking) local employment opportunities but was less optimistic about the chances of pursuing an expansive coping strategy. Between 1994 and 2005, Giebelsdorf lost around 3% of its population. The mayor feared for the future of his town because—due to demographic decline and geographic remoteness—he saw only dwindling opportunities for economic growth:

> The demographic changes are really, really tough for us. […] Young people leave because there are no jobs, we're getting older and older, and nobody has found a ready-made solution to stop that yet. What doesn't help is our geographical location and the disadvantages that come with it. (Giebelsdorf BM: 33)

The distress that the mayor of Giebelsdorf displayed indicates that he was still far from lowering his aspirations for economic growth and rising standards of living as a means of countering youth emigration. The painful nature of this experience becomes especially understandable when we take into account that in West Germany the expectation that economic growth would be equally possible in urban and in rural areas has become generally accepted since the second half of the twentieth century.

[1] Note that names of places are pseudonyms in order to protect the privacy of interviewees and to avoid stigmatisation of places. A list of quoted interviews is to be found in Chap. 4 (Table 4.1).

Looking at some examples from Poland, we see different frames of demographic change that predominantly focus on growth or deny that demographic decline causes serious problems (Sect. 6.6). Concerning overall urban development, the focus in Goromierz, a city that lost 9 % of its population between 1995 and 2005, was clearly on urban growth, as evidenced in the following explanations by the mayor and the city's human resource manager:

> The consequences of the demographic downturn are still affecting us. In 2002 we had a population of 327,000. Today we're only 317,000. Halting this negative trend is our biggest challenge. (Goromierz PRÄ: 47–48)
>
> Well, let me put it this way. As far as Goromierz is concerned, the number of residents has declined a bit, but our mayor has adopted a kind of policy […] for women as well as for younger people [where] we are trying to create conditions that will motivate them to stay in Goromierz. Opportunities to find, well, to find a job and, well, to see [a future for] their own development, their own lives here in Goromierz. […] That means that all the investments the city is making should be for its citizens, which is to say that they are to motivate them to commit to a life in this city, I mean so that they don't go abroad. You know, the kind of activities that keep the younger people here, to retain skilled people in this area, in this place. (Goromierz PER: 83)

The mayor of Goromierz seamlessly translated the observation of population decline into the policy objective of stopping this "negative development". In this case, "negative" is not only a descriptive but also a normative term—which is not self-evident since the presence of fewer people could also be interpreted as lowering the competition for urban resources (Häußermann and Siebel 1987). Similar to the West German growth frames, Polish local governments typically focus on strengthening the attractiveness of their locality in situations of demographic decline. These growth frames are generally accompanied by expansive coping strategies such as investments in local infrastructure and the planning of new business parks or housing areas on the outskirts of towns.

In Poland, the opening up of new residential areas responds to housing shortages resulting from communist times (Kierzenkowski 2008). Yet, like all investments, expansive strategies of urban development bear the risk of failure if the anticipated demand is lacking. The mayor of Dahrenberg, for example, bemoaned the restrictions he faced due to inherited deficits accumulated as a consequence of a history of expansive strategies (Dahrenberg BM: 56). In East Germany, taking up *new* debt was not a major issue in our interviews from 2006. However, during the 1990s there was significant overinvestment in settlement infrastructure in East Germany (Wiedemer 2004; Pfeiffer et al. 2000), restricting political action in the later years. Another blind spot of strategies of municipal growth is that in conditions of national demographic decline, local population growth is only possible at the expense of other localities—given that the interviewees did not consider the theoretical option of slowing down population decline via immigration from abroad (Keely 2009; Bijak et al. 2008). Recently, more proactive approaches to immigration have been discussed in Poland (Korcelli 2006) and are beginning to be implemented in Germany (e.g., policies for establishing a regional "welcoming culture" (Schön et al. 2012; Merx et al. 2013).

6.3.2 *Fertility Decline as an Opportunity for Task Expansion*

Early childhood education and care is a field where decreases in fertility rates have very prompt repercussions provided that a minimum level of services exists. In our three regions of comparison, the participation rates in formal early childhood education and care varied considerably. In 1991 in West Germany, 69.9 % of the children from 3 to 6 years old went to nursery schools but only 1.3 % of the younger children were enrolled in day nurseries. In East Germany, participation was significantly higher: 97.9 % of the children from age 3 to 6 attended kindergarten and 52.6 % of the younger children went to a crèche. Poland resembles the West German enrolment pattern more than the East German one: in 1991, only 25.4 % of the children from 3 to 6 years old attended institutional childcare, and 3.1 % of the younger children did so (Bartl 2011). Against this backdrop it becomes evident that a drop in births would have a moderate effect on West German nursery schools, whereas day nurseries would not be very vulnerable. The moderate attendance level of children in preschool age (3–6 years old) and the low attendance level of children younger than age 3 in West Germany contributed to growth frames and expansive coping strategies in the face of demographic decline.

When we conducted the interviews in 2006, we encountered a situation that was still very open in terms of institutional childcare services in Germany. At that time, the national political debate on childcare had already focused on the introduction of a national entitlement to institutional childcare starting at age 1 as a consequence of the Barcelona targets set by the European Council in 2002 (European Commission 2009, p. 7). The federal government finally codified this entitlement to take effect on 1 August 2013. However, in 2006 the decision whether to expand childcare services or not was still subject to municipal discretion. The state of Rhineland-Palatine, where the shrinking West German towns of Dahrenberg and Giebelsdorf are located, decided in 2005 to guarantee each 2-year-old child a place in institutional childcare starting 2010. Because of this state initiative, our examples can be regarded as forerunners of a broader West German pattern.

One important argument in the national debate was that part of the costs for the expansion of institutional childcare would be offset by demographic decline (Rauschenbach and Schilling 2009). This argument is especially important for municipalities since in Rhineland-Palatine, for example, they shoulder about 52 % of the costs of institutional childcare while the rest is shared between the state and parents (Bertelsmann Stiftung 2008). Consequently, the administrator responsible for the local childcare infrastructure in Dahrenberg interpreted the witnessed demographic decline as an opportunity for expansion:

> Well, we would never have started offering day nurseries, if demographic change hadn't set in and eased the financial burden at the same time. Because we wouldn't have been able to shoulder that on top of everything else. (Dahrenberg SOZ: 89)

For municipalities as employers of childcare personnel, this expansive policy had the convenient side effect that it was not necessary to make unpopular personnel decisions. Some interviewees even interpreted the expansion of childcare to

have the latent function of securing public employment (Wabental SOZ: 54). The demographic decline in the target age group for kindergartens (3- to 6-year-olds) by around 20 % (Dahrenberg SOZ: 60) could be compensated by an expansion of municipal services to crèches (targeting children younger than age 3). Therefore, in terms of staffing, "nothing has changed", as the human resource manager of Dahrenberg put it. Even though fewer children are expected to attend institutional childcare in the years to come, the human resources manager "would rather think about fixed-term contracts" than about curbing recruitment (Dahrenberg PER: 35). By contrast, the mayor of Giebelsdorf, the second shrinking West German town in our study, regretfully saw no possibilities of expanding institutional early childcare because of Giebelsdorf's difficult budgetary situation (Giebelsdorf BM: 55).

A survey by the German Youth Institute, designed to provide an overview of the state of institutional childcare provision in Germany, shows that 46 % of the child welfare offices in municipalities facing falling demand for childcare that had already opted for a specific response to this development at the time of the survey were pursuing an expansive strategy. West German and, in particular, economically privileged regions were found to do so with greater frequency. However, the survey also showed that one-third of the child welfare offices that were expanding their services were reducing personnel at the same time. Not all of the freed resources were therefore being re-invested in enhanced service provision. Surprisingly, child welfare services in economically advantaged regions cut back on personnel twice as often as disadvantaged regions did (Pluto et al. 2007).

The analysis of aggregate data on West German municipalities reveals a similar coexistence of expansive coping strategies and personnel reduction. In the aggregate view, it becomes clear that despite expansive strategies of urban development and institutional childcare, which seem to prevail even in shrinking municipalities, there was an overall decrease in municipal public employment in West Germany. The total number of persons employed declined from 1.334 million in 1991 to 1.005 million in 2008 (Bartl 2011, p. 312). Later their numbers again increased slightly to 1.157 million (Statistisches Bundesamt 2013, pp. Table 2.7). Although the decrease in staff in West German municipalities reflects a longer-term retrenchment strategy in the face of scarce municipal revenues and the increasing influence of new public management discourse during the 1990s, the recent growth in municipal employment is attributable—at least to a certain extent—to the expansion of childcare services for children younger than 3 years. Personnel reductions in West Germany followed the expected pattern of internal labour market downsizing, albeit without radical reductions in recruitment.

6.3.3 Professionalising the Local Public Administration Workforce

In Poland, expansive strategies of urban development had similarly expansive effects in terms of a growing municipal workforce. As opposed to Germany, there are

only a very limited number of education and training programmes in Poland that cater to the special needs of public administration. During the transformation period in East Germany, staff inherited from the communist era were either replaced by West German imports or participated in further education in order to accommodate the new situation of a bureaucracy guided by legal rules and required to record its acts in writing. Despite lacking an elaborate education system for public administration, (shrinking) Polish municipalities have striven to professionalise their staffs in order to align administrative decision making with current legislation (Sierowice BM: 14), to be able to fulfil the new tasks devolved from the Polish state to the municipal level, and to effectively implement their urban growth strategies. The municipal aspiration to professionalise administrative personnel becomes manifest in expansive personnel strategies, such as in the shrinking city of Goromierz:

> It is a fact that the tasks assigned to local self-government are increasing each year. That leads to having more staff. […] As far as personnel issues are concerned, it might be important [to mention] that we're changing the structure in regard to qualification and age. That is to say […] that in 2000, in 291 out of our 861 positions we had staff with a higher-education degree, 475 employees with intermediate-level education, 52 with a vocational education and 43 with lower secondary education only. (Goromierz PER: 32–34)

Between 2000 and 2005, the number of positions in Goromierz increased and the qualification requirements of staff was upgraded. Moreover, early retirement schemes contributed to rejuvenating the workforce (Goromierz PER: 36–42), which was expected to change the culture of public administration away from the communist tradition (Starow BM: 35). It seems to be a significant feature of the newly erected organisational identity of Polish municipalities to regard their residents as clients and not as citizens. This resonates with the impact of new public management ideology in other fields, for instance, in the school system (Chap. 7).

Since we observed tendencies to expand staff in growing and shrinking municipalities alike, it does not come as a great surprise that the staffs of local bodies of self-government (including *gminas*, *powiats* and *woiwodships*) increased from 1.486 million employees in 1999 to a maximum of 1.827 million in 2010. From 2010 to 2012, their number slightly declined again to 1.792 million (GUS 1995–2013).

New recruits in Polish municipalities are typically employed on fixed-term contracts. The human resource manager of Goromierz attributed this to the need for a longer probation period given the lack of institutions in Poland for training administrative personnel. This situation burdens the hiring process with high uncertainty since the information provided in job applications and interviews is often not sufficient to determine a candidate's suitability for the position in question. Moreover, the practice of fixed-term employment contracts are not specific to public administration but have "somehow become commonplace" in companies in Poland as well (Goromierz PER: 164–171). Hiring based on permanent employment contracts is said to be the exception or limited to candidates with pertinent work experience only. Fixed-term employment contracts are common in other municipalities as well and are considered a probationary period for both parties involved. It typically lasts 3 months and can be extended for another 3-month period. After a maximum of 6 months' probation, a decision has to be made to either discontinue employment

or employ the candidate on a permanent contract (Bracewo BM: 36). The mayor of Starow explained that fixed-term employment contracts are a "good method of mobilising employees" since Polish labour law makes it "very difficult to fire a permanently employed worker". The expansive tendencies in Polish municipal administrations thus involve a prolongation of the time span for the transition from the external to the internal labour market. Employing new staff on the basis of fixed-term contracts creates a polarised internal labour market divided into a core and a peripheral workforce, mostly along age lines. Newcomers to the workforce are assigned to the peripheral positions, whereas the core positions are primarily occupied by senior staff.

A similar trend toward a polarised labour market is observed in Polish schools (Chap. 9) as well as in East and West German municipalities. Hence, temporary employment contracts are an instrument that is not tied to strategies of expansion in particular. The findings for the three regions under comparison rather testify to a generally increasing significance of temporary employment in municipal administrations (cf. Czerwick 2007; Keller 2010 for Germany and Baranowska et al. 2011 for Poland in general).

6.4 Demographisation Frames and Reduction Strategies

The concept of demographisation used here implies that social problems are interpreted with an undue focus on demographic developments. The quasi-natural features of demographic developments, as they are represented by professionals in public discourse, encourage an isomorphic extrapolation of demographic trends to other social realms (Barlösius 2007). In this perspective, shrinking municipalities would seem likely to lower their aspirations and cut their public services (Beetz 2007). As we have seen above (Sect. 6.3), this is not always the case in reality.

In terms of the specific instruments employed in retrenchment strategies, public sector organisations are likely to respond to declining resources by displaying a typical pattern of personnel reduction via internal labour markets (*internal labour market hypothesis*; Chap. 3). Guided by the ideal of representing a model employer with stable long-term labour contracts, public employers typically try to avoid the instrument of mass redundancies. Instead, staff is reduced by 'natural' turnover and a reduction or freezing of new employment. Sometimes 'natural' turnover is encouraged, for instance, by incentives for early retirement.

According to the literature, institutional labour protection for public employees has been the strongest in West Germany, followed by East Germany and Poland (Kiedrowski 2007; Bluhm 2006; Kubicek 2004, pp. 71–102; Keller et al. 2001; Wank 2001). We have shown that expansive strategies play an important part in West Germany and Poland, and we found demographisation frames and reductive coping strategies mainly in East German shrinking municipalities. Now we are interested in the extent to which they apply the typical instruments of internal labour

market downsizing. Similarly to growth frames and expansive strategies, we found demographisation frames and reduction strategies to be tightly linked as well.

The three municipalities from our East German sample that classify as shrinking (Stechwitz, Bolfin, Linten) showed the largest relative decrease in population numbers. Moreover, the population of Talstedt, classified in the East German context as a municipality with a relatively stable population, dropped by 5% as well. The shrinking municipalities in West Germany and Poland did not perceive demographic decline in terms of a typical demographisation frame focused on lowering collective aspirations. However, some municipalities from all three regions described reduction strategies independently of demographisation frames. Although the closing of organisational units is an important element of reduction strategies, which came to bear in childcare and schooling infrastructure in East Germany (Chap. 8) and to some extent also in Poland (Sect. 6.6), within this section we will concentrate on instruments of personnel flexibility in a narrower sense.

6.4.1 An "Incredible Loss of Residents"

In Stechwitz, the population declined by 46% between 1991 (43,800) and 2006 (23,900). The number of children in the relevant age group for childcare facilities dropped even more sharply: from approximately 3000 children younger than age 5 in 1991 by roughly 80% to about 650 in 2005 (Bartl and Jonda 2008). The following quotation cites the human resource manager (HRM) and one of her fellow department heads (*Hauptamtsleiter*) in response to the question to what extent demographic change has had an influence on the municipal personnel policy:

> HRM: Yes, well […] we in Stechwitz have witnessed—and that's probably one of the reasons why you chose us—an incredible loss of residents. […] Fellow department head: The largest in all of Germany. HRM: Yes, well, purely speaking in relative terms. […] And that's a huge problem. The infrastructure was originally supposed to accommodate 45,000 inhabitants. (Stechwitz PER: 208)

The two municipal managers regarded the "incredible loss of residents" not only as a "huge problem" but also more precisely as one that could not be solved in the short term. Whereas overcapacities in the local real estate market become directly visible to the public through housing vacancies (Bolfin PER: 30), the same is not necessarily true for overcapacities in public administration. Since local governments lack market prices for their services, bureaucratic organisations have established functional substitutes instead in the form of in-kind calculation of service provision and in-kind controlling. As a consequence, the problem of service overcapacities becomes most salient in areas of municipal service provision based on number of cases, such as institutional childcare, resident registration and administration of housing benefits (Stechwitz PER: 212). For example, population-staff ratios defined by superordinate authorities translate population decline into a problem of human resource management (Chap. 5). Beyond a certain point, Stechwitz,

similar to other shrinking municipalities in East Germany, shifted the focus of its coping strategies to the reduction of municipal tasks and service capacities. For institutional childcare this meant the privatisation of childcare centres (Sect. 6.7) and considerable staff reductions (Sect. 6.4.2).

Interestingly, the focus on reductive coping strategies and the extrapolation of their prospective consequences reactivates a latent growth frame, which seems to be the 'natural' perspective of municipalities. A decreasing number of residents means lower municipal revenues and, hence, less capacity to provide the voluntary local public services that are considered to determine the quality of life of urbanites (cultural activities, swimming facilities etc.). The municipal managers of Stechwitz argued that further cutbacks in voluntary municipal tasks would fuel local population decline, leading to a vicious circle of overall urban decline. Therefore local policies tried to maintain as many services as possible (Stechwitz PER: 216–220). However, this is merely a latent growth frame pointing to the desire for alternative policy approaches to the dominant cutback strategy. According to the mayor of Stechwitz, staff reductions in the wake of population decline would remain on the municipal agenda for years to come (Stechwitz BM: 24). Political pressure to reduce staff is exercised by requirements to apply benchmarked population-staff ratios, which are controlled by audit offices of supervising authorities and are regarded as a legitimate means of ensuring proper levels of public service employees (Talstedt SOZ: 6; Landesverwaltungsamt ST: 14). In line with these administrative guidelines, municipalities project their future staffing needs according to the time horizon of demographic projections; in 2006, that was the year 2015 (Linten BM: 37).

Demographisation frames were lacking in West Germany and Poland. In West Germany, shrinking processes, firstly, can be assumed to still be less salient because they have been less intense and less frequent than in East Germany. Secondly, regionally prevailing growth frames seem to overshadow nascent demographisation frames in shrinking municipalities (Sect. 6.3.1). In Poland, processes of population shrinkage are more pronounced than in West Germany but have set in later and have been progressing more slowly than in East Germany. However, the vulnerability of municipal childcare infrastructure in Poland was much lower than in East or West Germany if we take enrolment rates in childcare in 1991 as an indicator (recall that the percentage of children of the respective age group attending day nurseries was 3.1 % and nursery schools 25.4 %, Bartl 2011, p. 313). Furthermore, during the last 20 years, municipal revenues in Poland were less responsive to changing population numbers than in Germany due to the decentralisation process and the EU accession (Chap. 5).

6.4.2 Legitimate and Illegitimate Instruments of Staff Reduction

At the beginning of the 1990s, immediately after the German reunification, municipal administrations in East Germany faced the problem of finding skilled personnel.

In the GDR's centrally organised system of governance, the municipalities had been responsible for only a small range of tasks compared to the situation in West Germany's federal system. Furthermore, municipal employees were typically not trained in programmes genuinely designed for the field of public administration. This correlated with the fact that administrative action in the GDR did not consistently conform to the principle of written documentation, which is a prerequisite for the legitimisation of decisions based on the rule of law. In the edifice of democratic centralism, the municipalities were under the dual authority of both the superordinate district and the corresponding body of the Socialist Unity Party of Germany. Everyday reality in municipal administration was thus marked by interventions 'from above' as well as by pragmatic ad hoc decisions to the benefit of the common good (Berg et al. 1996, p. 78). The processes of replacing the former elite and taking charge of tasks that were formerly in the hands of the superordinate district level and state-owned companies (e.g., childcare) involved a massive increase in municipal personnel. At the same time, there was a considerable expansion of technical infrastructure in many localities (e.g., sewage plants, business zones), part of which soon turned out to be oversized. The expansion of the municipal workforce reached its peak in the second half of 1991 and has been reduced continuously since 1992 (Berg et al. 1996, p. 120; Wank 2001).

Our interviews allow us to reconstruct the typical dynamic of staff reduction strategies that make use of various instruments of downsizing. From 1992 to 1994, the reduction of personnel was limited to areas that mainly involved low-skilled labour (kitchens, laundries, cleaning). Later, "it hit the kindergarten teachers just the same because there were simply no more children" (Stechwitz PER: 308; 490). As demand began to drop, the municipalities relied on natural turnover and the reduction of new hires, which is in line with what the pattern of internal labour markets would lead us to expect in the event of financial pressure (Reineke 1987). In addition, childcare centres were privatised and henceforth run by nonprofit organisations to save personnel costs (Sect. 6.7). The subsidies to these typical providers in the German welfare mix are lower than the municipality's costs of running its own childcare centres would be. This is partially due to a wage gap between the respective collective agreements. Another incentive for privatisation is that, seen from the perspective of the municipal budget, privatisation converts staff costs into material costs. Local government councils use the staff-material cost ratio in the municipal budget as an indicator in downsizing decisions, with high personnel costs being indicative of downsizing potential (Stechwitz PER: 498–506). Restructuration measures with an immediate impact, such as collective dismissals for economic reasons or the closure of facilities, were still avoided at this point in time—coming close to a denial of demographic problems:

> Well, up until 1996 … well, how can I put this, nobody really wanted to face the fact that a large surplus of staff was looming and that we would have to react accordingly by adopting very unpopular measures. (Stechwitz PER: 306)

East German municipalities facing substantial population shrinkage also resorted to dismissals to adapt personnel to strongly eroding demand. This response

contradicted what one would expect in light of labour market theory and was a novelty in the public sector. The magnitude of surplus personnel in the mid-1990s apparently convinced decision makers that turning to the unpopular measure of dismissals on economic grounds was ultimately inevitable. In the latter half of the 1990s, Stechwitz terminated the contracts of 40–50 kindergarten teachers annually. Moreover, most of the school secretaries were dismissed as well. "Fortunately, it just so happened" that retirement took care of reducing the number of school janitors (Stechwitz SOZ: 10). In our sample, mass layoffs were also reported for the other two shrinking cities (Bolfin, Linten) and for one other city in East Germany with relatively stable population numbers (Pötzberg). In the latter region, numerous childcare centres and schools were closed over the past 20 years (Chap. 8).

In light of the situation in childcare and schools, it is remarkable that the public works departments, for example, which had expanded considerably during the early 1990s, still maintained significant overcapacities in 2006. Apparently, benchmarking is considered to be less viable in this field (Stechwitz PER: 296). In public works, as well as in other more protected areas of local administration, the main form of staff reduction was 'natural' turnover. There is indeed evidence that mass layoffs will continue to play an important role in the personnel policies of public administrations, at least temporarily. In West Germany, public employees reach legal tenure status after 15 years of employment, and our interviewees from East Germany unanimously indicated that they considered mass layoffs as a means of last resort for municipal human resource management:

> [Dismissals for economic reasons] is the most severe means that you normally… well, we only used that to a very limited extent, when all those kindergarten teachers were concerned. (Linten BM: 69, cf. Stechwitz PER: 134–136).

The problems of legitimising layoffs are reflected in the social and emotional conflicts that the interviewees described in this context as well as in their emphasis on the exceptional nature of such measures. On the one hand, the extensive body of legal requirements to determine the social criteria to be applied and the threat of ensuing lawsuits provide an incentive to seek amicable alternatives so as to minimise the potential for legal conflict (Stechwitz PER: 137–141). On the other hand, the principle that dismissals should only be the last resort is not only established court practice but has become socially generalised (Struck et al. 2006) to an extent that Stechwitz even witnessed demonstrations outside of city hall when news of the mass layoffs of public employees got out. Municipal decision makers in Stechwitz were able to give the employees of the town's childcare facilities a plausible account of the grounds for their dismissal by quantifying the degree of population shrinkage. The reasons were "obvious since there were simply no more children" (Stechwitz PER: 137). To achieve solutions by mutual consent, the employees who were to be dismissed in the towns of Stechwitz and Linten partly received severance pay in excess of what the labour contract would have required. Nevertheless, moral conflicts still motivated the decision makers to look for alternatives.

6.4.3 Reduction of Collective Working Hours: A Third Way?

Since natural turnover adapts municipal services only very slowly to rapid decline in demand and mass layoffs are considered to be an illegitimate method of staff reduction, municipal decision makers in East Germany looked for a third way to reduce overcapacities of staff. The deliberative bargaining procedures of management and work councils reached a seemingly viable solution "at the last moment" (Stechwitz PER: 308). The agreement enabled a short-term reduction of personnel costs while retaining the workforce by collectively reducing working hours. Weekly working hours were lowered from 40 to 32 (Pötzberg SOZ: 54) or even to 24 (Bolfin BM: 16) with wages being reduced proportionally (i.e., by 20 and 40 %, respectively, in these cases). While collective reductions in working hours had generally still been accompanied by mass layoffs during the second half of the 1990s, in Stechwitz overcapacities were reduced exclusively by collective agreements from 2001 onwards (Stechwitz PER: 212). Legally, reductions in working time for a larger number of staffs can be realised by collective or a given number of individual agreements (Kohte 2007; Schulze-Doll 2007). Theoretically, the latter seem to allow for more flexibility in personnel policy once demand begins to rise again since collective agreements often include the condition to first raise weekly working hours before new staff can be employed. In practice, new employment is typically reduced to zero whether the agreements are of the individual or collective kind (Bolfin SOZ: 22). Hence, collective reductions in working hours reinforce the closure of internal labour markets to outsiders from the external labour market (e.g., young people, the unemployed), thus lowering their chances of entry (Lindbeck and Snower 1988; 2002; Wiekert 2002). Collective agreements on working hours existed in the towns of Linten, Pötzberg, Bautenbach-Feldow and Sentig; Bolfin reduced collective working hours on the basis of individual contracts.

Most interviewees, when giving reasons for the reduction of collective working hours, referred to this instrument as their preferred alternative to mass layoffs, which they regarded as an "unsocial" solution. This reflects not only the individual perspective of those affected by personnel reductions but a view that is also shared at the organisational level. Unlike the individual consequences of mass layoffs, the possible exclusion of (young) outsiders from the public sector labour market through hiring freezes was never mentioned in our interviews. This is somewhat surprising because in most shrinking municipalities the local government is an important employer. In contrast to the overall picture in Germany (Schmidt et al. 2011), wages in the public sector in East Germany are on average higher than in the private sector (Heitmueller and Mavromaras 2007), which makes the former particularly attractive. In Bolfin, the groundwork for the reduction of collective working hours on the basis of individual contracts was laid in numerous collective and bilateral discussions in which the senior workforce in particular (which enjoyed greater legal protection from dismissals) had to be convinced that their solidarity with younger colleagues was a valuable contribution to a higher end. Nevertheless, what appeared to be a consensual agreement led to a group action lawsuit against

the city of Bolfin with 100 claimants claiming their right to full-time employment. Ultimately, the conflict was able to be settled out of court (Bolfin PER: 40). The settlement provided that new staff could be hired only after the workforce working on reduced hours had returned to full-time employment (Bolfin PER: 38).

Since staff reduction policies were reported in both the shrinking and growing municipalities in our East German sample, it comes as no surprise that a look at aggregate employment data shows a decrease in municipal workforce. However, the scale of staff reductions is highly remarkable. The number of people employed in East German municipalities was reduced by two-thirds from 662,000 persons in 1991 to a low of 216,000 in 2008 (Bartl 2011, p. 312). In recent years, the workforce has again increased slightly to 229,000 persons employed in East German municipalities. While this substantial reduction in staff is attributable to personnel overcapacities compared to West German standards (Ragnitz and Seitz 2006, pp. 199–211), the recent increase in East German municipal employment is partially due to the growing size of birth cohorts combined with the repositioning of childcare by expanding after-school care (Chap. 8).

6.5 Realistic Frames

In contrast to growth or demographisation frames, realistic frames are less simplistic and give rise to rather differentiated definitions of the situation. For example, they may consider not only either aspirations (demographisation) or resources (growth) but also the interplay of both while taking intervening factors into account as well. We found realistic frames in all three regions of comparison. However, they seem to be less frequent than simpler frames. This might be due to the fact that the retrospective descriptions of decisions that we obtained in our expert interviews were likely to rationalise the chosen alternative and suppress competing definitions of the situation that were probably salient when the decision was actually made. Since realistic frames are not dominated by a single aspect of the situation, they have the potential to open up very different coping strategies. But it is also clear that the process of inference takes more time when realistic frames are to be translated into coping strategies.

Local population decreases in East Germany were only partially due to fertility decline. Processes of suburbanisation and outmigration (often to West Germany) were at least equally important (Dienel 2005). Some of our interviewees offered very nuanced appraisals of the local demographic situation, pointing to dimensions often obscured in public discourse. The mayor of the city of Linten, for example, referred to the process of suburbanisation as a crucial determinant of the population decline that her city faced during the last 20 years:

> It's just that through… the it's not so much a demographic change… well, [what appears to be] demographic change is actually a migratory movement of the population here. After the wall came down, many well-to-do Linten citizens built new homes in [District1] and also in [District2], resulting in that part of the population not living in town anymore but still

> making use of all the services provided by the city, having their jobs here and all. (Linten BM: 44)

Since the suburbs primarily attracted the middle classes, the municipality lost an important part of its tax base while those suburbanites still use the urban infrastructure such as work opportunities or cultural amenities. There exist typical spillover effects between cities and suburbs and resulting conflicts. For example, the advanced-track secondary schools (*Gymnasium*), which are typically located in the city, cause increased municipal spending for education, while these additional costs for students from the suburbs are not fully compensated by the intergovernmental transfers received per student (Freund 2008). This differentiated frame led the city of Linten to lobby at the state level for the introduction of some kind of urban–suburban compensation scheme. This is a fairly complex, and so far unsuccessful, coping strategy (Deubel 2012, pp. 165–166). In several other German states, a differentiated perception of the relationship between demographic decline and municipal revenues has led to the establishment of criteria for 'special need' applying to cases where municipalities experience rapid demographic decline (Hesse and Grüttner 2013).

The mayor of the small peripheral town Giebelsdorf in West Germany is another example of a realistic definition of the situation that we would like to cite. Despite his aspiration to raise the local standard of living in order to stop youth emigration, he admitted that expanding childcare services is beyond the financial means of the municipal budget. His statement clearly differentiated between the expansive policy of the state (Sect. 6.3.2) and the implications of expanding local services in terms of personnel costs:

> You know, this extended range of services, unfortunately… well, I have to say that the state doesn't support them and the personnel expenses aren't subsidised [so as to cover the costs]. And that means that the municipalities may very well have to foot the bill on their own. And considering that 24 of the 26 municipalities in our association of municipalities close with a deficit even though they are only spending money for the services that they are required to provide by law, it's of course really difficult to expand the whatchamacallit. (Giebelsdorf BM: 55)

We have classified this framing of the municipal situation in Giebelsdorf as realistic because, despite a more general trend in West Germany, the municipality did not perceive demographic decline as an immediate opportunity for expanding the range of tasks and level of services within its jurisdiction. At the same time, it did not engage in lowering municipal aspirations as could be observed in many other instances in East Germany. It rather sought to prevent an inflation of municipal aspirations in regard to municipal resources. Other municipalities in our West German sample seemed equally realistic in their framings. For example, they refrained from expanding childcare services for the youngest and set their priorities very carefully in terms of spending in the various policy areas (Kaulshafen PER: 40). A fairly realistic aspect of growth frames in Polish municipalities was that local policies did not attempt to change fertility rates, which would seem to be a rather bold local aspiration, but instead sought to attract people from other places (in Poland). However, expansive strategies intensify the competition between localities and produce winners and losers.

6.6 Denial Frames

We defined denial frames as descriptions of the situation a municipality is faced with that ignores or denies that there is a demographically induced discrepancy of aspirations and resources to be re-equilibrated. Empirically, examples for such frames can be detected when interviewees *explicitly* deny that there are problems related to demographic development, even though structural information indicates that theoretically such problems are likely to exist (Merton 1976). Furthermore, there might also be situations in which interviewees simply ignore that there is a problematic demographic situation and hence *implicitly* apply a denial frame. As a working hypothesis, we suspect that denial frames are most likely the result of other aspects of the situation that reach beyond demographic factors (Chap. 3). This can be a latent function of the framing process, but it can also be the result of deliberate prioritisation. We found individual instances of denial frames in East Germany, some in West Germany and a rather generalised denial of demographic problems in Poland.

The early years of transformation in East Germany were characterised by political promises of rapid economic growth supported by public investments in infrastructure while the introduction of the West German currency fuelled market-driven processes of deindustrialisation (Offe 1996; Sackmann 2010). Against this backdrop of political and economic changes, one of our interviewees from a significantly shrinking municipality reported that "until 1996, nobody really wanted to face the fact that a large surplus of staff was looming" that called for "very unpopular measures" (Stechwitz PER: 306). An interviewee from the town of Bolfin reported that the local council adopted a strategy of fiscal consolidation as late as 1998 (Bolfin PER: 59–60). In these cases, the denial seems to be the result of both the politically rather inflated growth frame and the fact that short-term solutions to overcapacities such as staff layoffs and closure of childcare and schooling facilities seemed to be rather illegitimate options from the moral viewpoint of the municipality as an agent responsible for social welfare. During the second half of the 1990s, the initial denial frames in shrinking East German municipalities were typically succeeded by a more or less generalised demographisation frame emphasising a reduction of collective aspirations (Sect. 6.4.1). This shift in perspective was politically imposed on those municipalities by the audit offices of supervising state authorities.

In Sect. 6.3.1, we have already shown that growth frames typically dominated the definition of the situation in shrinking West Germany municipalities. We also found examples of denial frames there. The following quote from our interview with the human resources manager of the town of Dahrenberg is a case in point:

> Well, yes, demographic change, a topic on which there is a host of expert opinions, and one that is talked about a lot. But right now I can't really tell that we would've noticed anything there yet. […] Fewer people in the city, fewer children in the city would be to dip into the future. (Dahrenberg PER: 35)

Apart from the relevance stated in expert opinions, the human resource manager could not see any practical relevance of demographic changes to the work in his

department. From a comparative perspective, this view on demographic changes in a significantly shrinking city can be attributed to the general growth frame in Dahrenberg and relates to early childhood education and care facilities, and more specifically, to the expansion of services to children younger than three. However, while in West German shrinking municipalities growth frames often suppress demographic aspects of the situation, there are also examples of realistic framings from this region (Sect. 6.6).

Polish denial frames are especially interesting. They display a peculiar combination of focusing on various growth processes that suppress awareness of the negative aspects of demographic decline and redefine the potentially problematic nature of the reductive measures obviously taken in response to smaller birth cohorts in early childhood education and care facilities. If we take the example of Kołowina, a town that lost about 12% of its residents from 1995 to 2005, resulting in a total population of 19,000 in 2006, the denial took the form of a surprisingly positive appraisal of population decline by the mayor:

> Our population here in Kołowina has declined. […] And now we fall into a different category of cities than before. Now we're a larger city among smaller ones, which gives us a better position when it comes to the allotment of [European] Union monies. This has to do with the classification of cities into categories of up to 20,000 residents and those with 20,000 up to 100,000 residents. And that's why our city takes a dominant position among the smaller ones, whereas the Union grants would be negligible were it the other way around. However, the declining population is still worrisome and allows only one conclusion. And that is that many residents leave our city because of unemployment. (Kołowina BM: 39)

This at first glance purely positive framing emphasises the opportunity to tap additional subsidies from the European Union as a consequence of the changed position within the administrative classification system for municipal funding. It is subsequently complemented by a more negative appraisal that nevertheless classifies as a growth frame for its focus on economic rather than demographic aspects of the situation. With the support of EU funds, the mayor planned to expand municipal services in order to establish Kołowina as an attractive residential locality in the greater area of an industrial city. The population decline due to lost employment opportunities was to be offset by a strategy of suburbanisation. The expansive pattern of this strategy matches the typical pattern in other shrinking (as well as growing) Polish municipalities (Sects. 6.3.1 and 6.3.3).

Taking a closer look at further examples from the interviews with the mayor of Kołowina and the mayor of Goromierz—a city with more than 300,000 inhabitants that lost 9% of its population between 1995 and 2005—we can observe another aspect of how denial frames in Poland work, namely, by restricting demographic problems to the field of schooling and redefining the potentially problematic nature of the ensuing consequences:

> So far, the issue [of demographic change] hasn't affected our city that much. Apart from one area […] we don't see any effects of the demographic downturn here. But it is affecting the education and school system. […] Of course, the demographic fluctuations have an impact on the number of pupils, which then leads to merging classes and personnel problems and restrictions. But we here in Kołowina have those problems under control. I can't

> recall that within the last eight years we have had to let go of a great number of teachers. (Kołowina BM: 95–103)
> Our community administration definitely reflects the demographic changes. They are most prominently manifest in the field of education […]: [In the jurisdiction of Goromierz] 80 school classes were closed down and the teachers—since legislation permits it—were just let go. We only needed to close one small school and another one on the outskirts. (Goromierz PRÄ: 47–48)

Both officials associated demographic change with declining sizes of birth cohorts but saw only the local schools affected by these changes. However, they immediately redefined the potentially problematic consequences of demographic decline in the area of schooling by downplaying them in quantitative and qualitative terms. The denial of significant problems in school infrastructure as a result of demographic development might be attributable to the institutional expansion of this field after 1999 (Chap. 7).

Prima facie the restriction of demographically induced problems to schools is surprising since we have seen that early childhood education and care in East Germany was very vulnerable to declining cohort sizes (Sect. 6.4). In West Germany, this vulnerability of early childhood education was offset by expanding childcare for children younger than age 3 (Sect. 6.3.2). In Poland, childcare facilities were available for only slightly above 3% of all children younger than 3 years in 1991. Despite a declining number of children, availability even fell below 3% during the 1990s (Bartl 2011, p. 313). In absolute numbers, this meant a reduction in the relatively low number of day nurseries available in the country from 591 in 1995 to 371 facilities in 2006 when we conducted our interviews. Moreover, although early childhood education in Poland had the lowest participation rate among the three regions under comparison—it was at 25.4% for children of preschool age in 1991—the number of nursery schools was even reduced from 9350 in 1995 to a low of 7738 in 2005. Additionally, the entry classes of the primary schools in Poland were reduced from 11,268 to 9518 in 2006 (GUS 1995–2013). The recorded closures of early childhood education and care facilities were significantly more pronounced in rural than in urban localities.

Against this backdrop of a significant reduction in early childhood education and care facilities, it seems especially surprising that our interviewees did not mention this development. One explanation attributes this development in Poland to the decentralisation of the responsibility for childcare provision to the municipalities at the beginning of the 1990s combined with a cut in central-government funding (Szelewa 2012). As a consequence, many municipalities—particularly in rural areas—decided to close their childcare facilities. For a long time, the cutbacks in institutional childcare did not seem to trigger any serious discontent with the situation. This could be due to the fact that the particular Polish pattern of the division of labour between state, market and family can be traced to a significant extent to the traditionally important role of the Catholic Church, which assigns the primary responsibility for the upbringing of children to the family. Complementary to the low coverage of institutional early childhood education and care, it has to be mentioned that informal childcare plays a major part in this arrangement. In 2005 and

2009, respectively, around a third of the children younger than age 3 in Poland were cared for on an informal basis (Lancker 2013, p. 13; European Commission 2009, p. 31)—with care work often being performed by grandparents (Jappens and van Bavel 2012) or female immigrants from Ukraine (Keryk 2010).

Concerning the Polish early education system, our interviews took place right after an expansive reform that might have contributed to the observed neglect of demographic problems in this municipal area of responsibility. With its accession to the European Union, Poland also committed to the targets defined at the Barcelona Summit in 2002. These targets promote childcare services as an instrument to increase fertility rates, improve socioeconomic integration and reconcile work and care to allow for more participation of parents (especially women) in the labour market. The European Council agreed that the member states should "strive to provide childcare by 2010 to at least 90 % of children between 3 years old and the mandatory school age and at least 33 % of children under 3 years of age" (European Commission 2009, p. 7). Concurrent with its accession to the European Union, in September of 2004 Poland introduced an obligatory year of preschool education for children at the age of 6. Until the 2003/2004 school year, children only had a right to receive 1 year of preschool education, and childcare for children under 3 years old continues to be a voluntary municipal task. The newly established preparatory class (see Fig. 7.2) was assigned to the preschool departments of the primary schools and to nursery schools. Despite the reduction in the absolute number of preschool establishments, their coverage of children of preschool age increased to 55.6 % in 2005/2006 due to declining cohort sizes (GUS 2012). Hence, our interviewees may have interpreted the state of municipal early childhood education services more from the angle of this relative gain. What speaks in favour of the plausibility of this explanation is that, as studies of public discourse also emphasise, with the Polish accession to the EU certain formal structures have changed while highly generalised norms of gender inequality have not (Gerber 2011).

From 2006 to 2012, the number of preschool departments in primary schools was further reduced from 9518 to 8916. However, the number of nursery schools was increased from a low of 7738 in 2005 to 9823 in 2012 (GUS 1995–2013). Furthermore, in the 2008/2009 school year, two additional types of childcare facilities for children in preschool age were introduced to support the institutional expansion of early childhood education. As a consequence, the participation rate of children from ages 3 to 6 in all types of preschool education facilities increased to 71.6 % in the 2012/2013 school year (GUS 2013, p. 370). Since many of the new types of early childhood education and care facilities in Poland were funded by EU structural funds, it is not certain whether the recently observed expansion of childcare services will last once these funds run out (Szelewa 2012, pp. 16–17). To give an intuitively comprehensible overview of the slightly U-shaped structural development of early childhood education and care in Poland, the total number of facilities targeting children younger than age 6 is depicted in Fig. 6.1 together with an analogous indicator of the structural developments in West and East Germany.

Summarising this chapter, we can state that our interviewees from local governments denied demographically induced problems mostly against the backdrop

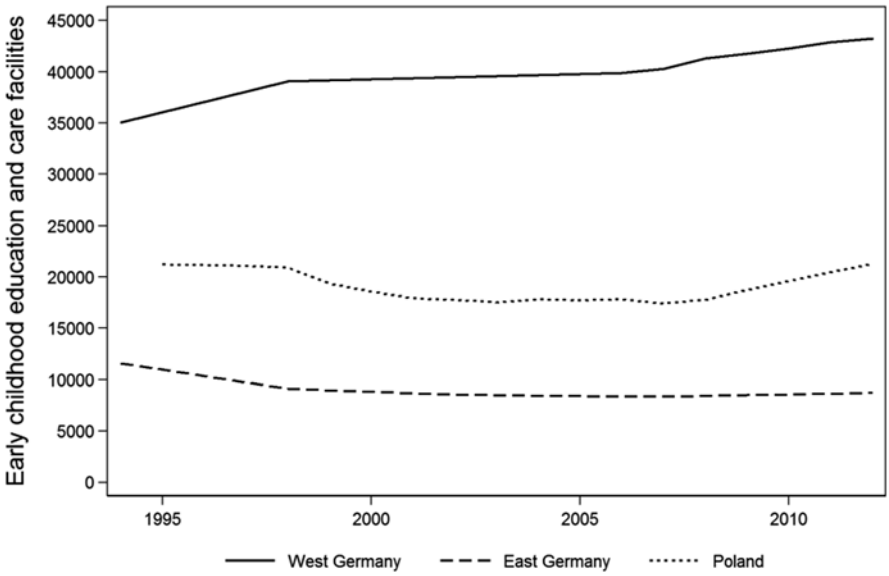

Fig. 6.1 Early childhood education and care facilities in West Germany, East Germany and Poland (1994/1995–2012). (Sources: GUS 1995–2013; Statistisches Bundesamt 1994–2012)

of expansive processes or growth frames. In the case of Polish childcare, the persistent implicit familial welfare regime provides an additional explanation for denial frames because it sees the family as the primary caregiver and educator of the youngest children. This enables the reduction of public aspirations without the need for elaborate justification by municipal officials.

6.7 Reorganisation of Public Services Through Privatisation

The three empirically most relevant instruments for the reorganisation of public services in the face of demographic shrinkage in terms of which and how organisational units are to provide them at the local level are inter-municipal cooperation (Pawleta 2008; Bartl 2011, p. 222), organisational integration (Bartl 2014) and privatisation. A common feature of all three is that they stand for organisational innovation with a simultaneous focus on (collective) aspirations and resources. Due to limitations of space in this chapter, we will focus on privatisation. Privatisation is a means to reorganise public services in order to ensure a certain level of service provision while containing public costs. Privatisation of existing organisational units typically comes with transfers of staff, including rather complex contractual arrangements that often involve a recommodification of public employment (Hart-

mann 2008; Kast and Freihube 2004; Atzmüller and Hermann 2004). In the context of expansive strategies, municipal personnel policy is not necessarily affected since new organisations might be established.

Privatisation of local public services has gained importance as a consequence of the international diffusion of new public management discourse (for Germany, see Killian et al. 2006). Private providers can be distinguished according to the importance of profits for the organisation. Whereas decommodified public providers typically place higher value on achieving political aims than on avoiding costs, maximising profit is the typical aim in a pure market environment. Privatisation is likely to increase the complexity of local governance, since the managers of these privatised companies typically apply economic rather than political criteria in decision making (Edeling et al. 2004). Despite other studies showing marked differences between various European models of "urban capitalism" (Lorrain 2005), we were not able to detect a systematic relationship between institutional settings and the use of privatisation in coping with demographic decline. Furthermore, in the cases we analysed, the instrument of privatisation was used in municipal expansion as well as reduction strategies. This supports the assumption that the importance of privatisation generally has been on the rise.

In East Germany, privatisation can be considered as being part of a more general reductive coping strategy by which municipalities have tried to liberate themselves from the perceived burden of staff costs in the face of demographic decline (on institutional child care, see Sect. 6.4.2) or to generate additional revenue (on public utilities, see Richter and Edeling 2010). An especially interesting example illustrating the simultaneous focus of privatisation on maintaining public aspirations while recognising the limited nature of public resources was a local initiative to save a lower secondary school from closure with the help of local companies in the face of dwindling enrolment. The companies committed to facilitating the students' transition into vocational education and training. Without such a public-private cooperation, this school would probably have been closed (Sackmann and Bartl 2007). In West Germany, privatisation was used in the context of expansive strategies to promote urban economic development but also in order to liquidise municipal real-estate property as a one-time source of revenue (Dahrenberg BM: 5–9). In the interviews with representatives of the Polish municipalities in our sample, privatisation did not feature prominently as a means to cope with demographic change, which is probably due to the rather generalised denial of demographic problems that we observed in our qualitative data (Sect. 6.6).

To refine the results from our expert interviews, we want to take a closer look at the aggregate privatisation levels of childcare services in our regions of comparison. We observed expansion of childcare services in growing and shrinking West German municipalities without privatisation being mentioned as a major instrument of expansion. This is largely supported by aggregate data if we use the share of private nonprofit and for-profit facilities as an indicator. In all three regions of comparison, the share of for-profit providers has been rather marginal, which is why we will refer to the total share of private providers without further differentiation. While West

Germany traditionally has had a relatively high share of private providers of childcare services, their overall share has slightly increased over about the last 20 years. It rose from 64.6% in 1994 to 69.2% in 2012, probably reflecting the attempt to control the costs of service expansion by this means. Our interviewees from shrinking and growing East German municipalities reported that they used privatisation in order to cut personnel costs in the larger context of reduction strategies. Since East German municipalities had quite a low level of private childcare providers in the early 1990s and almost all municipalities in East Germany were confronted with declining cohort sizes, many of them decided to privatise public childcare facilities. In 1994, private, mainly nonprofit, providers in East German states (including Berlin) had a share of 16.3% among the existing childcare facilities, and in 2012, their share had risen to 55.5% (our own calculations based on Statistisches Bundesamt 2012, LT1; Statistiken der Kinder- und Jugendhilfe 1994, LT1). Although the rising share of private childcare providers in East Germany reflects a convergence towards the West German model of "urban capitalism" in social infrastructure, this convergence does not necessarily imply a convergence in normative terms. East German officials still maintain significantly higher normative aspirations in terms of the level of public childcare provision (Steinführer et al. 2012) and furthermore often consider a minimum of direct public service provision as part of their organisational identity (Bartl and Jonda 2008).

Poland started the transformation period with a comparatively low level of childcare facilities, which were almost exclusively public. When municipalities closed many of those facilities in the early 1990s, some of them were reopened as third-sector organisations. Polish authors have observed a recently growing sector of private childcare services (Szelewa 2012, p. 21). And indeed, in the 2012/2013 school year, 30.5% of the nursery schools were provided by private organisations (our own calculations based on GUS 2013, Table II.1). The number of day nurseries for children younger than 3 years old has increased from 371 to 699 facilities between 2005 and 2012. This expansion, albeit at a low level overall, suggested an increase in the share of private providers from 4.0% in 2005 to 41.9% in 2012. Furthermore, 153 of the 163 newly established "children's clubs", as they are called (child care units with a capacity of up to 8 children aged 1–3 years with less formalized qualification requirements regarding personnel than day nurseries), are provided by private organisations. These children's clubs are child care units with a capacity of up to 8 children aged 1–3 years, which have lower formal qualification requirements for personnel than day nurseries. Moreover, in 2012 there were 167 institutions with 3031 places providing private childcare services for children up to the age of 3 that were not registered as day nurseries, and 9050 nannies were registered with the Social Insurance Institution (GUS 2013, p. 390). The degree of private providers is still lower than in the two German regions of comparison. However, there is a "hidden privatisation" (Ball and Youdell 2007) of childcare in Poland since parents bear around 80% of the costs (European Commission 2009, p. 55), whereas in German states the burden borne by parents varies between 11 and 26% of childcare costs (Bertelsmann Stiftung 2008).

6.8 Second-Order Problems of Personnel Downsizing in Internal Labour Markets

It is obvious that every organisational strategy has intended *and* unintended consequences. While there is considerable knowledge on individual and organisational consequences of mass layoffs (Cooper et al. 2012; Pfeifer 2007; Struck 2006), a typical instrument for downsizing found in external labour markets, we were interested in the perceived consequences of personnel downsizing in internal labour markets in particular. Downsizing in internal labour markets is typically a mechanism of external closure that relies on a combination of natural turnover and a reduction of recruitment down to zero (in our sample, e.g., Sentig BM: 22; Stechwitz BM: 10; Talstedt SOZ: 10; Bolfin PER: 28) even in regard to vocational education and training (Bolfin BM: 24; Stechwitz PER: 92; Linten BM: 13). Since this is a fairly slow mechanism of personnel downsizing, the discrepancy between aspirations (personnel costs) and resources widens across time and increases financial pressure. Furthermore, rapidly ageing workforces might be less innovative, and mismatches between the demands of tasks and available staff might not only undermine personal motivation but also organisational performance (*internal labour market hypothesis*). On top of that, current literature on ageing workforces (in the public sector) highlights that the foreseeable retirement of large birth cohorts could lead to skills shortages in the face of recent demographic change (Lutz 2000; Pilichowski et al. 2007; McKinnon 2010).

Since we have shown that reductive modes of coping were most pronounced in East Germany and to some extent also in West Germany, the second-order problems of personnel reduction typical of internal labour markets seem to be most likely in East Germany. Our results show that the typical pattern of personnel flexibility of internal labour markets can even reinforce external closure when new hires are further postponed by collective agreements to reduce collective working hours (Sect. 6.4.3). While this reinforced response pattern can be expected to ease financial pressure to some degree, it is likely to display most of the other second-order problems to be expected from typical internal labour market downsizing. Let us see to what extent this is the case.

6.8.1 Rapidly Ageing Workforces

If municipalities aim to rebalance their budgets by downsizing personnel, they often decide to stop recruitment for months or even years. Usually this is a political rather than a purely administrative decision and is likely to be perceived as a restriction on human resource management or may even result in open conflict (Sackmann and Bartl 2007). When we conducted our interviews in 2006, human resource management in Bolfin and Talstedt had experienced 4 and 6 years, respectively, of working under conditions of budgetary consolidation “dictated by politics” (Bolfin BM: 8), which involved major restrictions on external recruitment. It is probable that an in-

terruption of generational turnover within an organisation for such a long time will undermine its personnel function. Rapid ageing of the workforce, which is an almost inevitable side effect of such external closure, is probably just a superficial indicator and not an in-depth explanation of resulting organisational problems. Despite the burgeoning literature on ageing workforces, it is still debatable if elder workers are equally or less productive than younger and middle-aged ones are (Schmähl 2003; Wrenn and Maurer 2004; Wrenn and Maurer 2004; Arnould et al. 2007; Prskawetz et al. 2007; Kuhn and Hetze 2007; Frosch 2010; Frosch et al. 2011). Evidence based on longitudinal studies suggests that older workers are more innovative than some cross-sectional studies would lead us to expect (Frosch 2011). Nevertheless, older workers in Germany face unequal opportunities for employment (Brussig 2009).

Our interviewees in East Germany (and to a lesser degree also in West Germany) observed a rapid ageing of the municipal workforce, whereas our Polish interviewees reported the opposite tendency (Sect. 6.3.3). Interestingly, municipal experts in East Germany attribute this ageing not to general population ageing (as their counterparts in West Germany do) but primarily to the age selectivity of mass layoffs and secondly to hiring freezes in the wake of reductions in collective working hours:

> And this ongoing hiring freeze of course leads, in large parts, to an ageing administration. It's especially drastic in daycare centres, where we had to reduce personnel due to the baby-bust generation, in accordance with the social selection criteria required by law. It always hit the younger female staff. Actually, we're looking at a child-grandmother relationships now because the average age of our staff is around fifty. That isn't well-balanced in that respect, and this trend of course extends into the [municipal] administration since we have had a strict hiring freeze for many years and our staff certainly has gotten up there in age. (Bolfin PER: 14)

The age bias of mass layoffs deprives the organisation of its younger workforce because the socially determined criteria for redundancies often include seniority as a criterion that protects against dismissal (Bolfin BM: 16). However, from a legal point of view, there are acceptable alternative procedures to mitigate this problem. Instead of grouping the entire staff according to the required set of social criteria, personnel can first be divided into age groups and each group ranked internally. Dismissals can then be distributed across age groups. This procedure has been upheld by the courts (Mohr 2007). This would have allowed for more balanced age structures of the workforce but does not seem to have been practically relevant in the cases that we studied. Among the interviewed municipal experts, the mayor of Pötzberg, for example, observed that ageing staffs seem to be less innovative:

> You know, I'm not telling you anything new here […] what is missing then is an influx of young staff so that there is some mix of age groups, so that there is an inflow of fresh ideas. That has been lacking for years, I mean, you just have to say that. And then it's been the financial predicaments that have brought us to that point. (Pötzberg BM: 16)

Another interviewee attributed problems with the implementation of a new education programme for staff in childcare explicitly to the average age of the workforce (Bolfin SOZ: 6). Interestingly, a closer look at her statements shows that it is not chronological or individual age that limited the staff's motivation to participate in further education but rather the passing of a "developmental deadline" (Heckhausen

et al. 2001) constituted by contracts for early retirement. Contracts for early retirement were rather common in our German sample (Dahrenberg BM: 40; Bolfin BM: 16; Bolfin SOZ: 6; Linten BM: 32; Sentig PER: 17; Pötzberg PER: 11), which is true for the German labour market in general (Burkert and Sproß 2010).

> A childcare worker always has to face the challenge of staying motivated, even if… Not to say, 'Oh, well, 'Oh, well, I'll be in partial retirement soon so further education doesn't matter anymore.' […] And it really takes a lot of energy to do that. (Bolfin SOZ: 6)

Other parts of the interview (e.g., Bolfin BM: 32) also suggest that it is not chronological age that reduces employees' work motivation but rather the absence of prospects of individual development and insufficient solutions for the period of transition into retirement. A solution to these problems discussed in the literature is, for instance, opening prospects of horizontal development, i.e., offering older staff who have exhausted their opportunities for vertical career advancement opportunities to still advance their professional skills and expertise (Weimer and Schwarting 2007). Moreover, organising flexible paths of transition into retirement might hold hitherto underappreciated potential for enhancing the innovative potential of older employees.

6.8.2 Mismatches of Demands and Available Staff

In an instrumental perspective, human resource management strives to match organisational positions and people in order to meet the demands of a given social environment. However, the demands of tasks and personal qualifications do not always match. Basically, two strategies can be applied to improve matching in this situation: new staff can be hired from the outside (external personnel flexibility) or measures can be adopted to adapt existing personnel to job demands (internal personnel flexibility). Theoretically, both external and internal personnel flexibility are functional equivalents (Kopycka and Reinhold 2008). However, the forced nature of hiring freezes during processes of downsizing makes it likely that internal flexibility is perceived to have limits in terms of feasibility.

A statement by the mayor of Linten, a relatively large city with several thousand employees, testifies to this:

> Oh, well, I mean, of course we do have restrictions due to the fact that we have a budget consolidation plan and therefore a surplus of positions. These positions [were earmarked for cuts], and you can't just go ahead and, if there is an opening, just fill it with the best of the best that you can get. Rather you're forced to first look among those in the surplus bracket. […] further education offers are made so that people can be trained for the job. But still, at some point it is necessary to hire someone from outside. You know, we have observed that among upper-middle-level civil servants (*gehobener Dienst*), there are quite of few of them in the [municipal] administration, well, that were trained on the job, but you really notice if someone has just recently completed professional training and has really been exposed to the whole works. These people, you know, most of the time are just better trained for the job than those who have worked their way into the job through further education. This is why …, this is also the issue when it comes to the hiring allotment (*Einstel-*

> *lungskorridor)*, that we first and foremost would like to hire people from outside for higher civil service positions. Because it does have its limitations when you try to make everyone fit to fill every position. I mean, that just has its limits. (Linten BM: 29)

In her view, forced internal recruitment has obvious limitations even if it is accompanied by systematic efforts at further education. Therefore the city of Linten decided to recruit externally for positions requiring highly specialised qualifications. Other interviewees shared this view and lamented in this context that human resource management in the public sector is very restricted in its capacity to make people redundant (Stechwitz BM: 20)—for example, even if employees are chronically ill:

> Yes, but simply laying someone off is simply not an option; it's almost impossible. You can't even get rid of someone who has been on sick leave for 49 out of 52 weeks. (Stechwitz SOZ: 34)

Dismissals are not considered very promising since it is difficult to make a successful case on grounds of individual conduct. Transferring employees to other positions, on the other hand, is only the second-best option, especially if the transfer is involuntary and can entail a work-to-rule attitude. This is why Stechwitz established an exchange platform that intended to encourage employees to switch to another position voluntarily as an alternative means of addressing the staff surplus caused by the merger with a neighbouring town. In Bolfin, by contrast, there was a lack of a clear picture of how to deal with the situation, and middle management was still searching for possible solutions (Bolfin BM: 32). Bolfin's head of human resources, however, was aware that giving in to the situation would be a dangerous thing to do. If middle management, for example, detected poor performance but failed to intervene, this kind of behaviour might establish itself and soon become a part of the regular organisational routine. But under the conditions of a hiring freeze, the department heads are very often left to choose between two evils: either unsatisfactory performance or no performance at all:

> So you come to accept the fact that someone, let's say, is going at only about fifty per cent of his or her performance capacity, and that it's still better than getting zero per cent. That is something that we are confronted with big time. (Bolfin PER: 22)

Pötzberg also "suffers" from the same problem, i.e., "that staff was assigned to the administration and now we have to work with with what we've got" (Pötzberg BM: 32). In light of the seemingly restricted room for manoeuvre, the mayor decided to pursue a "policy of incrementalism" and, if need be, "just wait out" the problem since there was no sense "in tilting at windmills (laughs)" (Pötzberg BM: 34). The sense of resignation expressed by the head of administration can partly be attributed to the fact that, in times of budgetary consolidation, options for further education that might contribute to qualifying and perhaps even motivating the staff in question can either rarely be made available to any sufficient degree or there is no staff to substitute for the person for the duration of the training (Talstedt SOZ: 23). This being the case the person responsible for human resources in Stechwitz wished that there were a possibility "to somehow respond financially to poor performance" (Stechwitz PER: 155) in order "to bring one or the other out of their shell" (Talstedt

SOZ: 23). But as the discussion on performance-based remuneration has shown (Tondorf 2007; Weimer and Schwarting 2009; Schmidt and Müller 2013), deductions from paychecks in response to poor performance most likely would prove even more difficult to implement than offering bonuses for good performances. The mismatch discussed above eventually might lead to overburdening the "top performers"—for instance, due to constantly accumulating overtime (Bolfin BM: 16)—and thus to an overall decline in organisational performance.

6.8.3 Skills Shortage as a Strategic Challenge

Apart from the issues of the innovative capacity of ageing workforces and mismatches between the demands of tasks and available staff, the typical pattern of downsizing in internal labour markets aggravates the widely discussed problem of avoiding a skills shortage as a consequence of large birth cohorts retiring simultaneously (McKinnon 2010; Pilichowski et al. 2007; Lutz 2000). How did our interviewees perceive this problem?

The human resource manager of Bolfin, for example, was very aware of the looming challenge of having to replace a substantial portion of the municipal staff in the near future, which becomes clear in the precise information he was able to present:

> So, already we can see that—and Bolfin is no exception in this respect—that a permanent hiring freeze leads to an unbalanced and unhealthy process of ageing so that we will have a considerable need for personnel in all departments in the near future. Within the next seven, eight years [we will] be losing more than one-third of our workforce—due to age. And that has to be coped with! In our 2004 personnel development plan, we stipulated that, starting in 2007, we would counter that process by specifically training personnel [in the areas necessary]. Actually, we're already a little late. (Bolfin PER: 28)

Interestingly, he presented this information in relative numbers: substituting one-third of the workforce within a short period of time is a daunting challenge for most any organisation. The much larger city administration of Linten, by contrast, preferred to communicate absolute staff numbers: in 2006, 1200 persons were expected to retire within the following 6 years. The problem of recruiting staff was perceived to be especially challenging (Linten PER: 36) in East Germany.

The two examples of Bolfin and Linten show that recruiting new staff to meet the strategic challenge of replacing the soon retiring cohorts is in conflict with both the political aim of consolidating the municipal budget and the political aim of the local administration to act as an exemplary employer by securing employment for its staff even in times of financial pressure. Each of the political aims is supported by a different group of actors: the first one typically by the supervisory authorities and often the local government councils, and the second one by the works councils and the leadership of the local administrations (Linten PER: 38). Against this backdrop of micro-political conflict, it seems to be no coincidence that the quantitative representation of human resources differs between the rather small administration (stating

its problem in relative terms) and the large local administration (in absolute terms). The problem is framed so as to make a convincing case for the looming challenge despite conflicting political aims and to reach a consensus on the need for a certain "hiring allotment". A minimum of recruitment seems to be an essential ingredient for any strategic human resource development plan. The sample cases of Bolfin and Linten, in particular, had already set up such a plan at the time we conducted the interviews, but its implementation was still underway.

Whereas larger local administrations face skills shortages only in some very specialised areas, smaller municipalities encounter more general difficulties in recruiting skilled personnel. For example, a small growing municipality on the outskirts of Berlin attributed these difficulties to the very limited career opportunities it could offer (Bautenbach-Feldow PER: 43; also Stechwitz SOZ: 34). In this context, it has to be mentioned that small size is a rather frequent feature of local public administration in Germany. An additional problem that our interviewees, especially those in East Germany, bemoaned is that the qualification level of job applicants has deteriorated. This might be a consequence of the selectivity of outmigration processes (Schubarth and Speck 2009).

To summarize our results on the second-order problems of internal labour market downsizing, it can be stated that the expected problems arose in the East German context in particular where downsizing and hiring freezes were most pronounced. Whereas West German interviewees were able to appreciate the qualities of older workers, the interviewees in Poland attributed the perceived shortcomings of older staff to their socialisation during communist era. Furthermore, staff ageing in Polish municipalities was ameliorated by a significantly higher labour turnover due to official early retirement schemes and the hiring of young staff (Sect. 6.3.3).

6.9 Conclusion

The analysis of municipal frames and coping strategies in the face of demographic decline clearly shows that demography is far from being a 'destiny'. Instead, the relevance attributed to demographic decline varies with institutional settings and past collective experiences. Out of the eight analytical categories, seven proved to be empirically relevant. Empirically, there was no close match to the category of "threat rigidity" (Staw et al. 1981). Among the 16 logically possible combinations of frames and coping strategies, two emerged as empirically most relevant: growth frames and expansive strategies as well as demographisation frames and reductive strategies. Both pairs seem to be closely related in the sense of constituting institutionalised scripts or organisational routines. As far as the other three analytical categories are concerned (realistic frames, denial frames and reorganisation strategies), we were not able to detect systematic relationships. An interesting finding concerning realistic frames is that they not only take more time than the scripted frames when it comes to developing coping strategies, but that they can also lead to deliberately abstaining from (expansive) action. Denial frames, which

are sometimes questioned in terms of their importance for coping processes (Greve and Strobl 2004), do not seem to preclude agency. Rather, they are an expression of the fact that certain decisions require no further justification—which is remarkable in the context of (public) organisations (Luhmann 2000). Although privatisation is often treated as a typical retrenchment strategy (Boyne 2006, p. 378), it seems more appropriate to subsume privatisation under the category of reorganisation since privatisation can—and in fact did—occur in the context of both expansive *and* reductive strategies and does not necessarily affect the level of service output, which may remain fairly stable, even though it does reduce public input.

Concerning the correspondence of ideal types with empirical cases, we observed typical growth frames linked with expansive strategies of urban development in West German and Polish shrinking municipalities; in West Germany they were also linked with expansive strategies in institutional childcare. In terms of personnel, these expansive strategies were accompanied by growth in municipal employment in Poland but did not preclude a reduction in municipal staffs in West German municipalities. These reductions typically followed the expected pattern of internal labour markets. In contrast to the West German situation, we found typical demographisation frames and reductive strategies in all East German municipalities under study. Moreover, the analysis of aggregate data confirmed that staff reductions were common practice in East German municipalities until 2008. The reductions in East Germany were partially achieved through mass layoffs, which is a surprising result of our research. However, mass layoffs were increasingly substituted by collective agreements on (reduced) working hours, which tend to reinforce the closure of internal labour markets. As a consequence, the expected second-order problems of this response pattern were especially pronounced in the East German municipalities in our sample, whereas our interviewees from West German municipalities reported no such problems.

The marked differences in frames and coping strategies in the face of shrinkage between East Germany and Poland point to differences in the transformation path after the Velvet Revolution (Sackmann 2010). In East Germany, collective aspirations were politically inflated, leading to high public expenditure in the early transformation phase as the economy became increasingly deindustrialised. The timing in Poland was the reverse. After an initial 'shock therapy' with significant cutbacks in public expenditure, the subsequent decentralisation of state tasks (Chap. 5) led to overall growth in municipal employment that was additionally fuelled by funds that became available as a consequence of Poland's accession to the European Union. Interestingly, our Polish interviewees never mentioned the closures of childcare facilities in the early 1990s nor the slight expansion of institutional childcare after 2004, which are both visible in the aggregate statistics. This points to differing normative standards of local welfare, which implicitly assign childcare largely to the family in Poland and mainly to the state in East Germany. However, as a consequence of European integration, West Germany and Poland recently seem to be moving towards a higher rate of provision of institutional childcare. The role of social norms in the denial framing of institutional childcare by Polish municipalities shows that denial frames are not always a by-product of growth frames or growth processes as we

suspected in one of our working hypotheses (Chap. 3). Furthermore, our interviewees in Polish schools addressed demographic problems extensively, which indicates that this area is governed by other social norms (Chaps. 7 and 9). The involvement of private—mostly nonprofit—providers has gained importance over the past 20 years. Although the three regions of comparison still show differences in the degree of privatisation of institutional childcare, there is a similar trend of increasing privatisation across institutional settings and also across municipalities with diverging demographic trends.

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Author Query

Chapter 7
Expansive Reaction to Demographic Change: The Case of the Polish Educational Sector

Abstract The main consideration of literature on demographic change and the public sector is how to reduce infrastructure in a way that corresponds to smaller population numbers. This chapter, however, discusses an alternative reaction to decreasing cohort sizes and asks if demographic change can instead be used as an opportunity for reform with a view to raising the quality of public sector services. This chapter analyses expansive measures that have been implemented in the Polish educational sector in the last two decades with regard to their consequences for quality of schooling, teaching personnel and public finances. The analyses show that educational expansion resulted in a higher quality of instruction as measured by PISA indicators of student ability. Moreover, imbalances in the age structure of the teaching body, which are an inherent consequence of public sector reduction strategies such as hiring freezes, could be avoided. These positive effects were able to be achieved without straining public finances, as overall educational expenses have been stable throughout the whole observation period at a level of 3–4 % of the GDP.

There is a widespread notion in the literature on demographic change that this kind of change will have negative consequences for national economies and societies (Birg 2006; Kaufmann 2005). With regard to public sector institutions, a major challenge in the face of demographic shrinking and ageing seems to be the downsizing of technical and social infrastructure (Sievers 2009; Canzler and Knie 2009). After years of steady growth since the post-war era, the public sector is said to be rather unprepared for cutbacks and to lack strategic planning in this respect (Levine 1984). Faced with shrinking budgets and falling demand for public services, public agencies are expected to react incrementally, causing a piecemeal reduction in the scope and quality of service provision while simultaneously increasing the cost of services per client (Bartl 2011).

Contrary to this diagnosis, we would like to show in this chapter that smaller birth cohorts can have a rather positive impact on public service provision if they are used as an opportunity for reform. On the basis of the example of the Polish school sector and its restructuring in the 1990s, we wish to demonstrate how the educational reforms that have been implemented helped to effectively channel

Author: Katarzyna Kopycka

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declining student numbers and reverse the presumed negative consequences of demographic change.

In the typology of possible reactions to demographic shocks that we introduced in Chap. 3 (expansion, reduction, reorganisation and threat rigidity), the Polish educational reforms constitute a paramount example of an expansion reaction. The analysis of their various consequences, ranging from impacts on teacher employment to educational quality and budgetary considerations, allows us to (partially) re-evaluate the common notion of expansion in public services as wasteful and inflationary (Baum and Seitz 2003; Falch and Rattsø 1996).

The expansionary character of Polish educational reforms has to be discussed in view of two developments. On the one hand, Poland experienced a major reform of its education system at the structural level but also with regard to the range and content of school instruction, which, as a nationwide policy, had a direct impact on the provision of education. On the other hand, the decentralisation of the school sector at the beginning of the 1990s has opened space for municipal or even school-level education policies that, as we will show, have produced expansionary effects ever since.

Because of this complexity, this chapter does not focus on explaining the forces underlying the policies of educational expansion. We believe that these policies require different explanations according to the policy level at which they have been introduced as each one of them is the product of different social mechanisms. Instead, we wish to concentrate on describing the expansion strategies that we encounter in Poland and on discussing and evaluating their consequences. Our intention is to challenge the normative imperative of downward adjustment of public service provision to meet falling demand, which is commonly enforced by reference to the notion of sustainability (Pilichowski et al. 2007). We will show that such widely advocated recipes to cope with demographic challenges do not apply universally. In turn, there is a need to consider specific institutional contexts of public service provision that provide the framework for meaningful political action by defining the opportunities for and possible payoffs of different courses of action (Scharpf 1997).

We proceed as follows. First, we provide a short review of the literature on demographic changes in the context of challenges to the public sector and organise it in line with our theoretical framework. Second, we discuss educational reforms in Poland and describe their expansive character. Third, we analyse the consequences of such expansive strategies for a system of public service provision that faces declining numbers of beneficiaries. Finally, we offer some concluding remarks.

7.1 Inevitable Consequences of Demographic Change?

In the German mass media, demographic horror stories prevail that depict consequences of demographic changes as clearly negative and inevitable (for a summary, see Bartl 2011; Rademacher 2013; Siebel 2009). The scientific discussion about ageing and population shrinkage is full of such fatalistic diagnoses as well

(Lang and Tenz 2003). Problematic from the point of view of social sciences is the deterministic character of these diagnoses. Demographic development is treated as having direct and definite consequences on the state of society in the future. Herwig Birg (2006), for example, postulates that in the course of demographic ageing we will have to deal with rising inequality and social disintegration. Similarly, Kaufmann (2005) draws negative scenarios about the impact of demographic shrinkage on national economies. This fatalism has two roots. On the one hand, it is the product of a demographisation of social problems (Barlösius 2007; Sackmann and Bartl 2007a), according to which these problems are caused demographically and can only be cured demographically (i.e., by changing the demographic structure of society). On the other hand, there is widespread agreement that the possibilities of changing demographic structure are very limited (hence Birg (2006) gives the conclusion to his book the metaphoric title "It's thirty years past twelve"). In consequence, we are left with problems that we cannot possibly tackle because of their 'demographic' nature, which precludes any meaningful political action within a time horizon shorter than approximately 30 years. Such conceptualisations assume a direct relationship between demographic variables and the functioning of societal subsystems and hence do not attach any importance to political action in fields other than population policy. In the framework of our typology presented in Chap. 3, we can subsume these diagnoses under the heading of threat rigidity since political actors in this case are expected to do nothing but watch as their administrative units fall in demise.

Another branch of sociological literature on demographic change concentrates on adaptation to the phenomenon. Both positions share the view that the demographic structure of societies cannot be influenced in the short run (Sackmann 2008). This latter view, however, is less fatalistic as it sees possibilities of politically coping with the consequences of demographic change. Hence, the issue of major interest in this debate is the question of proper reactions to demographic challenges. The literature is dominated by a normative image of "adjustment": the technical and social infrastructure has to be adjusted to accommodate falling levels of demand, otherwise it will become financially unsustainable (Sarcinelli and Stopper 2006; Schmidt and Große Starmann 2006; Bose and Wirth 2006). This normative postulate of downward adjustment lies also at the heart of econometric prognoses of future public expenditure. Whereas in the course of demographic ageing the expenditure on healthcare and social services will increase, savings are expected in such areas as schooling and childcare (Seitz et al. 2005). However, because these savings can only be realised under the conditions of successful downward adjustment of public services in shrinking sectors, the adjustment capacity of public service provisioning becomes a question of imminent interest. Indeed we find a number of publications discussing this problem. On the one hand, with regard to technical as well as social infrastructure, some studies underline the existence of fixed costs of service provision that either cannot be reduced or can be reduced only with a respective time lag (Hummel and Lux 2007; Tietz 2006; Junkernheinrich and Micosatt 2005; Guggemos 2004; Seitz 2002). On the other hand, other studies focus on the capacity of corporate actors such as public organisations to

adapt to changing needs for public services. The major question in this respect is that of flexibility in personnel matters (Kopycka and Reinhold 2008; Sackmann 2008; Baum and Seitz 2003). Staff costs constitute a great share of overall public expenditure on public services (Dietz 2004). At the same time, public sector labour relations are widely recognised as being less flexible than those in the private sector (Bach et al. 1999; Farnham and Horton 1996; see also Chaps. 6 and 9 in this book). This is due to a specific employment model in the public service sector that ideal-typically can be described as an internal labour market (Keller 1985, 1993; Henneberger 1997; Lutz 1987; Kopycka 2013). Internal labour markets, as opposed to external ones, are characterised by stable, preferably lifelong employment relations (Doeringer and Piore 1985). Within such an employment model, changes in the structure of the demand for labour can be accommodated only through intergenerational change (Sackmann and Bartl 2007b), which makes public organisations ill prepared for abrupt change (*internal labour market hypothesis*). The empirical analysis of employment policies in Polish schools affected by declining enrolment showed unequivocally that personnel reductions there take the incremental form of reducing staff through retirement combined with an employment freeze (Kopycka 2013 and Chap. 9 in this book). The inertia with respect to staff numbers that arises from institutionalised employment guarantees is regarded as a major hindrance to cost reduction in labour-intensive public services and a threat to the fiscal stability of shrinking municipalities (Färber 1988). Not least because of this specific nature of the public sector employment model, the OECD emphasises that the current period (in which large cohorts from the period of rapid growth of the public sector in the 1970s are retiring) represents a "once-in-a-lifetime opportunity" to restructure public services in developed countries (Pilichowski et al. 2007). The diagnoses of inflexible public services and their low adjustment capacities all share the implicit assumption that there is the need to adapt levels of service provisioning to falling levels of demand. The questions addressed therefore concentrate on issues such as how to effectively reduce service capacity. With respect to our typology of reactions to demographic change, this branch of literature sees the reduction reaction as the preferred strategy in the face of demographic shrinkage.

Given the clear dominance of the reduction paradigm, the idea of expansion (the third type of reaction) as a possible alternative reaction to demographic change is rarely addressed and mainly in negative terms. Sackmann (2008) discusses expansion strategies with regard to the Parsonian categories of power inflation and deflation. He comes to the conclusion that political promises of expansion lead to a rise in citizens' expectations and enlarge the scope of relative deprivation, which is likely to result in power inflation and destabilisation. Empirical evidence on expansion reactions in public services to falling demand and their possible outcomes is rudimentary. One possible cause could be the fact that expansionary strategies are not easily statistically distinguishable from inert reactions of non-adjustment. If we take education as an example, we clearly see that a declining student-teacher ratio can be both an effect of political decision making as well as a consequence of ineffective personnel reduction. There is no consistent evidence that a lower student-teacher ratio has a positive influence on school achievement (Galton and Pell 2012).

A few studies report a beneficial effect of class sizes below 18 (Blatchford et al. 2002) and that the positive effects are stronger for disadvantaged and minority students (Babcock and Betts 2009; Iversen et al. 2011). An overall mean effect seems to be negligible, however (Chingos 2012). Considering this, allowing teacher numbers to remain high in times of falling enrolments seems to be merely a generous present to the teachers, who may now benefit from smaller class units in the form of a lighter workload (Baum and Seitz 2003). Indeed, the example of Norway in the 1980s showed that lowering class sizes and reducing teaching obligations resulted in an increase in educational spending by 35 % but with no visible improvement in student performance (Falch and Rattsø 1996). Hence, merely increasing the number of teachers per student without changing the organisation of education seems to be rather ineffective. On the following pages, we want to explore whether expansion strategies involving a major restructuring of school systems are more promising. As an empirical example, we chose Poland, where educational reform in the 1990s led to an expansion in public education (Kopycka 2008, 2009, 2013; OECD 2011).

7.2 Forms of Expansion of the Polish Educational Sector at the Central and Local Government Level

The governance structure of the Polish educational sector consists of a central administrative body (Ministry of Education), which sets the main course of policy, and local authorities (municipalities) directly responsible for the delivery of educational services, who enjoy high autonomy in managing educational provision (Kopycka 2013). It is therefore a decentralised system with a few exceptions, which will become evident as we proceed. We find expansion policies at both levels of government. We will discuss them separately, not least because of the character of data that we refer to.

7.2.1 Expansion Policies at the National Level

At the level of the nation state, we can discern two main driving forces of the expansion process. First, the early nineties of the last century introduced a radical change in national curricula, both in qualitative (content) and in quantitative terms (hours of instruction). Second, the reform of the school sector in 1999 amounted to a major restructuring of the organisation of education in Poland, which also had expansionary consequences. Let us discuss these issues in turn.

In the first decade after the system transformation in Poland, the changes in curriculum concerned the content of instruction. In the early 1990s, Russian, as the first foreign language taught in schools, was replaced by Western European languages, predominantly English and German. Additionally, socialist “citizenship education” was replaced by social studies, and religious education also returned to the schools

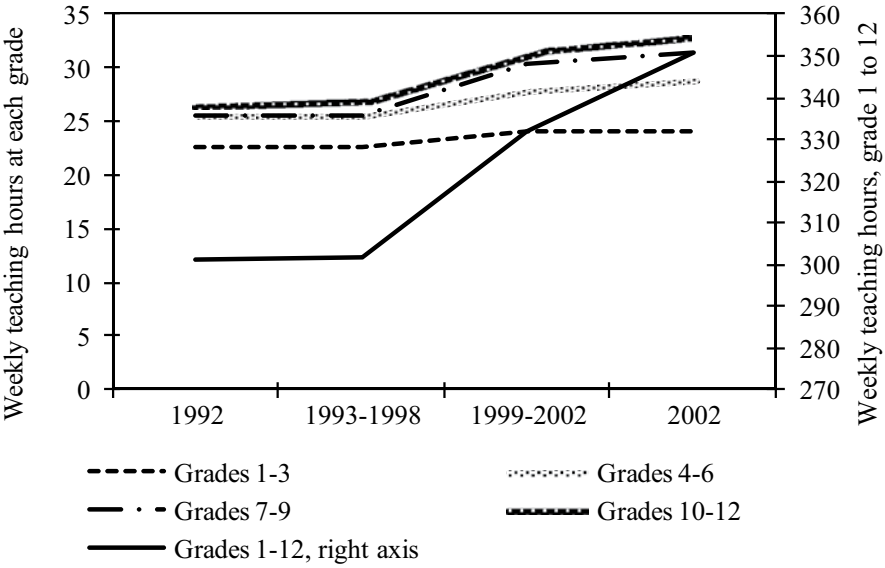

Fig. 7.1 Weekly instruction time at each grade level and throughout the whole core education cycle, 1992–2002. (Sources: MEN 1992, 1993, 1999; MENiS 2002)

(Hörner and Wompel 1994). Step by step, information science was introduced into the school curricula, replacing domestic science in the higher grades of primary school. A major expansion of national curricula came with the educational reform in 1999. Many new subjects were established at the time, enabling a more comprehensive approach in teaching, especially in primary school. For example, music and drawing have been replaced by "arts", and biology, physics and chemistry have been combined into "science". In addition, teaching time in many subjects has been increased substantially. As a result, the overall time of instruction at each educational level has increased compared to 1992, a trend that continued in the early 2000s as illustrated in Fig. 7.1.

The figure summarises quantitative changes in the compulsory curriculum. The data presented have been obtained through careful content analysis of ordinances of the Ministry of Education. We can see a remarkable increase in instruction time at each grade level. Taken together, the overall number of weekly teaching hours in the whole core education cycle (12 years) leading to a university entrance qualification (*matura*) increased from 300 (1992) to 350 in 2002. Since students attend an average 25 to 30 h of teaching a week, such an increase in instruction time corresponds to an extension of the education cycle by approximately two additional years. A rough look at the curriculum changes after 2002 allows us to cautiously speak of the continuation of expansive policies, at least in some groups of school subjects, such as Western languages, physical exercise or information science.

The second effect that we wish to discuss with regard to the educational reform in 1999 is the major restructuring of the education system by introducing a new type

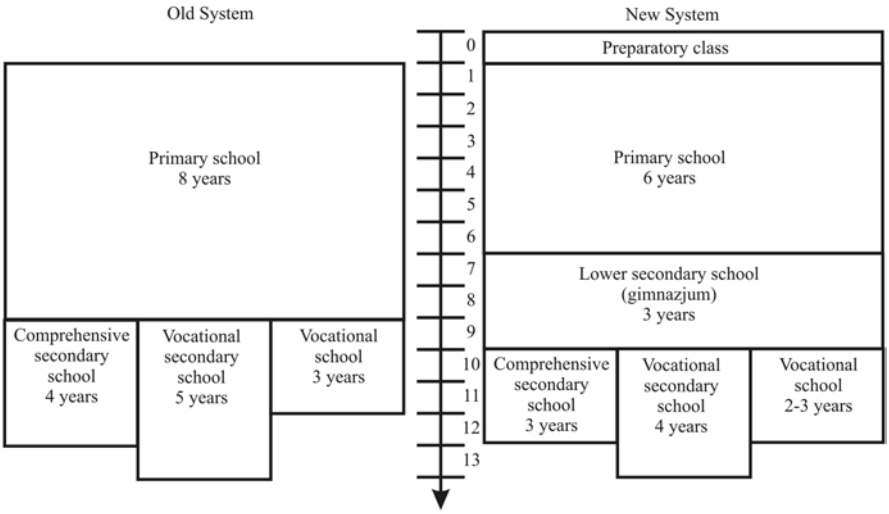

Fig. 7.2 Old and new Polish school system. (Source: Our own illustration based on MEN 1999)

of school at the lower secondary level. The two stages of the former system were shortened (primary school by two years and secondary school by one year) and a third, intermediate stage was introduced, as we can see in Fig. 7.2.

The introduction of the new lower secondary stage has had two consequences for educational provision. First of all, the number of schools as separate organisations has risen although the number of students has declined. Surplus primary schools instead of being closed have been transformed into lower secondary schools. This phenomenon is illustrated in Fig. 7.3.

At the same time, the scope of compulsory schooling has been raised from 8 years of primary school (in the former system) to nine years of combined primary school and lower secondary school (in the new system) (Rakowski 2000). This has influenced enrolment rates in the age groups of 16- to 18-year-olds by frequently inducing low-achieving students, who often repeat classes, to attend an additional year of comprehensive schooling. Whereas in 2000, one year after the reform, the enrolment rate for this age group lay at 88 %, by 2005 it had increased to 93 % and by the following year to 95 % (GUS 2006).

In sum, the expansionary effects of national education policies, especially in the years 1999–2002, can indeed be regarded as substantial. The later developments also indicate that the expansion policy in education continued throughout the 2000s, although not at such a rapid pace and mainly through curricular changes.

In the next section, we are concerned with educational policy at the local level. Expansion there has a more incremental character and is a rather continuous process. At the local level, regional disparities also play an important role. Nevertheless, due to the decentralised structure of educational provision in Poland, the potential for expansion in local education policy is considerable. Therefore, we argue, expansionary action of local authorities is an important addition to national level policy.

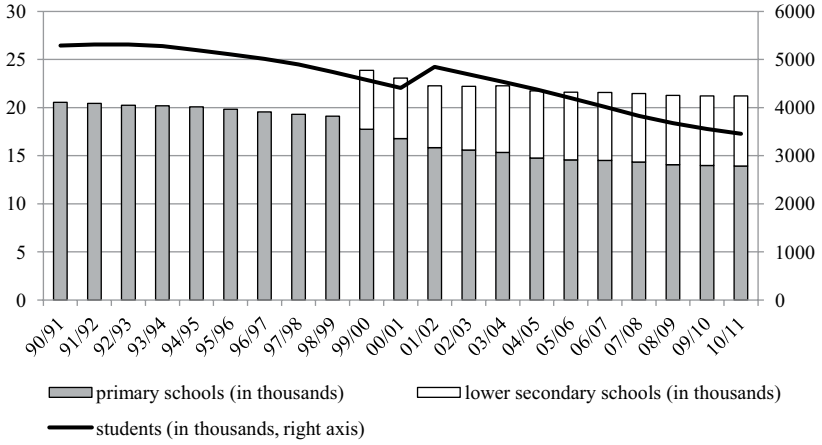

Fig. 7.3 The number of primary and lower secondary schools in Poland, 1990–2010. (Source: GUS 2000–2012)

7.2.2 Expansion Policy at the Local Level

Education in Poland traditionally has been organised centrally. Regional educational offices have been subordinate to the Ministry of Education and have been responsible for educational provision both in terms of school infrastructure and personnel. With the transformation from a socialist to a democratic regime, the decentralisation process has begun. The drive towards decentralisation of the state apparatus has its roots in the ideal of self-government, which reaches back to the first Commonwealth of Poland (Izdebski 2006). The policy of decentralisation has become manifest in the much stronger role given to the municipalities in the administrative process (Levitas and Herczyński 2002; Levitas 1999). Last but not least, in the first half of the 1990s, the municipalities were put in charge of educational provision at the primary school level, with many municipalities also voluntarily taking responsibility for secondary schooling within their jurisdiction (Levitas and Herczyński 2002; Hörner and Wompel 1994). In this process, which bears a great deal of similarity to the new public management programme (Hood 1995), a new governance structure of disaggregated service provision has emerged, replacing former bureaucratic hierarchical structures (Levitas and Herczyński 2002). The regional educational offices have been stripped of their powers and transformed into evaluation centres for supervising the fulfilment of educational standards at the local level as formulated in national policy. This decentralisation movement has given rise to opportunities for local expansion policies in education, thereby also opening space for regional disparities.

Crucial actors in shaping educational policy at the local level are the individual schools. In the course of decentralisation, schools as organisational units have grown in importance. Schools have been given more freedom to introduce innovative teaching methods as well as to react to regional educational needs (Hörner 2002).

They have also become a direct employer of teachers and non-teaching personnel (Levitas and Herczyński 2002), which has led schools to develop a strong and distinct organisational identity as separate organisational entities. As a consequence of their 'corporatisation', schools have become very active proponents of educational expansion. At the same time, and in contrast to the governance models of classic new public management, schools are not independent financial units and therefore have to negotiate their budgets with the municipalities. The local educational policy can therefore be most accurately described as a consequence of struggles within a field of power (Bourdieu 2004) between schools as direct providers of educational services and the municipalities financing them.

Two systemic dispositions open room for the expansionary processes at the local level. These include a) the structure of municipal finances and b) the degree of codification of the standards of educational provision. The first can be viewed as a resource or opportunity dimension of the decision-making process, the other as the institutional framework defining the limits of legitimate action (Esser 1999).

In the course of decentralisation, the devolution of responsibilities for educational provision to municipalities was followed shortly thereafter by budgetary devolution through the introduction of a student-based financing mechanism, which regulates the flow of educational subsidies from the central budget to the municipalities. The exact algorithm used to calculate the amount of the educational subsidy for each municipality is determined every year by an ordinance to the Education Act (Herbst 2000). Two aspects of the financing model of educational services are of importance. Firstly, the educational subsidy is part of a general-purpose grant for municipalities. Hence the subsidy is not dedicated and can be used freely to finance other communal services as well. Secondly, educational provision is declared an "own function" of municipalities, and municipalities are autonomous in deciding how much they invest in this task (see the discussion of the terms "own function" and "own revenue" in Levitas and Herczyński 2002). Both aspects can potentially lead to considerable differentiation in educational policy at the municipal level. On the one hand, fiscal inequalities between municipalities may influence their generosity. On the other hand, municipal expenditures on education will depend on political priorities. In consequence, municipalities can spend much more but also less on education than the subsidy they receive for this purpose.

The legal framework of educational provision is codified in the Education Act, which regulates many aspects of school administration, such as curricula, student admission and compulsory school attendance, and the organisation of the educational process. Also the conditions of teacher employment are regulated nationally in the so-called Teachers' Charter. Although the level of codification of educational provision in Poland, in general terms, has to be assessed as high, there are some crucial aspects of school organisation that are either not regulated at all or only in terms of minimal standards that leave room for discretion at the municipal level (Levitas and Herczyński 2002). Such loosely regulated areas include, for instance, class sizes, which in the absence of an official norm nevertheless have a strong and direct impact on personnel needs (through centrally set curricula).

Because of the only partial institutionalisation of service provision and a lack of institutional limits to spending, the organisation of school instruction is a result of negotiation between local actors, predominantly between municipalities and their schools (Kopycka 2013). Ideal-typically we can assume municipalities and schools to have conflicting priorities as they remain in a principal-agent relation to each other (Lane 2005). Whereas municipalities are interested in fiscal stability and therefore opposed to excessive spending on education, schools as strongholds of professional identity pursue the two main goals of any profession: maintaining their economic self-interest and serving their clients' needs in the best possible way (see Larson 1977; Cawson 1982; Cousins 1987). In Bourdieu's terms, both sides possess different types of capital (economic and cultural respectively) and strive for the dominance of their capital in the negotiation process over the shape of service provision (Bourdieu 2004). When education professionals succeed in this struggle, this results in the expansion of educational services.

At the local level we have identified three forms of expansive policies in education. They comprise the reduction of the size of class units, the introduction of extracurricular educational and pedagogical offers and the establishment of integrated schools admitting children with mild and moderate special needs.

With regard to *class sizes*, head teachers exert influence on municipal authorities to allow them to open more class units with a lower number of students per unit. In the following citation a head teacher of a small-town school in Silesia speaks about her negotiations with the authorities on this matter. From the perspective of a legal framework of school management, she recognises her position as subordinate in relation to the municipal officials. In the end, however, she is able to reach her goal and gain municipal acceptance to open two class units instead of one.

> It happens quite often that I have a dilemma, that I have classes in *gimnazjum* [lower secondary school]/I could have 33 students in the class, or I have 3 classes with more than 20 students each. So this is what makes the difference, so the municipality does not dictate whom I employ, but the number of classes. I had such a situation this year […]. There were 35 children [in the first grade] […]. But I managed to argue my case so that the municipality allowed me to open two classes, and there are 17 and 18 students in those classes. (Kołowina ZS: 89–102)[1]

The municipality adopts the definition of the problem as presented by the respective professional (quality of education) and attaches greater symbolic value to the cultural capital of the head teacher (professional expertise) than to its own economic capital (fiscal capacity), giving cultural capital prevalence within this field of power. The municipality accepts the professional diagnosis and approves of the proposed course of action as the only "right" thing to do.

> So sometimes it is better to pay extra money for these smaller classes than, so to speak, to try and play chess and open very large groups, because in this moment the education effect,

[1] Note that names of places are pseudonyms in order to protect the privacy of interviewees and to avoid stigmatisation of places. A list of quoted interviews is to be found in Chap. 4 (Table 4.1).

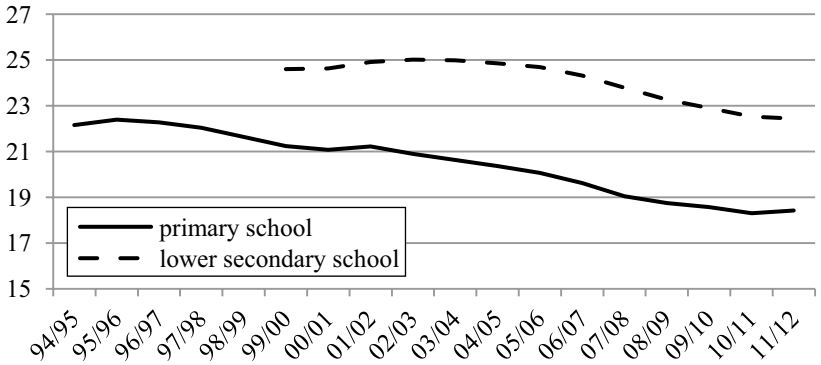

Fig. 7.4 Mean class sizes in primary and lower secondary schools, by school years; Note: Data for 1998/1999 estimated as the mean of 1997/1998 and 1999/2000. (Source: GUS 1995–1999, 2000–2012)

> like I said, this is a school and not a storage facility, so we have to take this into account and sometimes, well, one has to pay extra so that these children have a better start in the future. (Kołowina GEM: 418–421)

The dominance of cultural capital within the municipal field of power in educational provision seems to more than compensate the institutional subordination of professionals to school administration. Our empirical material indicates that a certain normative principle of investment in education has emerged. The municipalities perceive the attempt to save money on education as bad practice. Examples of such practices in other municipalities evoke moral repulsion and are used by the interviewees as a rhetorical device to emphasise their commitment to the intrinsic value of education, which cannot be a subject of economic calculation.

> As I have already mentioned, because of this goodwill of the municipality, of the aldermen, who prepare and accept the budget, we do not have after all/because we could have, honestly speaking, because there are no limits, no standards, we could have 35 students in each class, which probably is the case in all those cities where the Supreme Audit Office has found that the education subsidy is sufficient, or even that it exceeds expenditure on education and hence other, presumably also very important public services are provided instead, like streets or other things, right? Nevertheless here in our municipality it is unimaginable [to have such large classes]. (Goromierz GEM: 483–490)

As a result, municipalities commit to improving the standards of educational provision and accept declining class sizes. The consequence of this local dynamic is a decrease in mean class sizes across municipalities (aggregate data), presented in Fig. 7.4.

Apart from the commitment to reducing class sizes, the municipalities try to raise the quality of service provision by introducing *extracurricular educational and pedagogical services*. Most commonly they establish additional courses in modern foreign languages. Many municipalities had their schools introduce English courses as early as the first grade—long before it was made a mandatory part of the national curriculum in September 2008—and the second foreign language can be

taught as early as the fourth grade (in the national curriculum the second language is obligatory from the seventh grade on). Municipalities often also finance innovative teaching programmes.

> So, for example, a couple of years ago we introduced programmes/an additional offer in the form of programmes and extracurricular instruction of foreign languages in *gimnazjum* [lower secondary school]. That means there is not only English, but also French, Italian, German, Spanish to choose from. And every school got money for this, so that it is possible to teach foreign languages at all three grade levels [in lower secondary school]. In addition, information science, we have extended instruction in information science. What is more, regional education […] is being taught in gimnazjum. And for all this the municipality spends extra money (Sierowice GEM: 343–352)

Another field of municipal investment in the school sector is the introduction of supportive pedagogical and psychological services in schools as well as the expansion of after-school care combined with tutoring for low-achieving students. These additions all counteract any decline in employment levels, which remain high despite falling enrolment.

> It is simply so that our classes have become smaller, so that more teachers can be [employed] in schools, so to speak, and we have introduced various forms of education besides instruction. These are various compensatory programmes, such as day care that we run, where teachers are not laid off but rather they fulfil their functions, which are very needed, especially in such a city as X, one of the poorest in Poland, where there is simply a great need to take care of a large number of children. In every school there is day care, in many schools there are therapeutic day care centres […]. And this, so to say, balances out this demographic change. (ExpStGem: 185–193)

The expansion of various compensatory programmes is noticeable also in an aggregate view, as illustrated in Fig. 7.5. The data are presented for compensatory instruction and logopedics. We can see a substantial increase in the proportion of children benefitting from these additional offers. The increase is especially strong for compensatory education in lower secondary schools.

The driving forces behind the introduction of extracurricular offers are very often head teachers and individual teachers. It is they who come up with ideas for innovations in teaching and also they who recognise their students' 'needs' for extra support (pedagogical and psychological). Their professional status makes their diagnoses binding for the municipality because the municipality does not possess the necessary expertise to assess the adequacy of the teachers' demands.

> Here in Kołowina the cooperation between the municipality and all the schools has developed very well. There has never been/every issue/so problems have emerged, for example, as I have already mentioned, there are more and more children with hyperactivity. There is a need to employ a psychologist, for whom the ministry does not provide the funding; this is not part of the subsidy. It sufficed to talk with the municipality, to negotiate. The municipality has provided the funding. We have a position, at first a part-time post, then it allowed for a full-time post. So the municipality backs up every reasonable initiative needed. (Kołowina GRU: 312–318)

Last but not least, a decisive field of local education policy is *integration*. This involves opening integrated schools where children with mild and moderate special needs learn together with their peers who require no special assistance. Integrated classes have to be smaller than regular units, and instruction is carried out by two

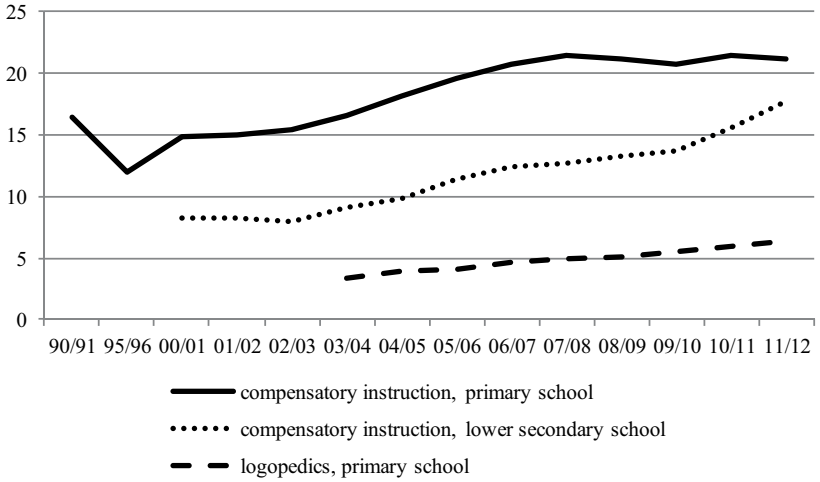

Fig. 7.5 Percentage of students attending additional instruction in primary and lower secondary schools, 1990–2011. (Source: GUS 2000–2012)

teachers: a subject teacher and a supporting teacher who specialises in working with students with special needs. As a consequence, in such schools the teacher-student ratio is much lower than average. Here again the initiative to open integrated schools comes from the professionals while the idea finds acceptance among the local authorities.

> I have noticed such needs as I was working in other schools […]. At first I had to convince practically everybody […], so the teachers, the parents, and most importantly the people on whom the financial management of the school depends, that is, the mayor. It has taken more than ten months, but it succeeded, and since 2001, 2002, I do not remember exactly, our school has become an integrated school. (Buciszewo GRU: 59–65)

The opening of integrated schools and classes is becoming more popular, which is clearly visible in the time series presented below (Fig. 7.6).

As we can see, expansion of the Polish educational sector takes various forms and proceeds both at the level of the nation state as well as at the level of local self-governing units. The development affects different dimensions of educational provision at the same time. Curricular expansion goes hand in hand with the extension of after-school care and compensatory programmes for low-performing students, with the reduction of class sizes and the integration of students with mild special needs in the regular education system. On top of that, the structural reform of the education system has changed it from a two-stage to a three-stage system by introducing a new organisational form—a new lower secondary school, which has had a huge one-time expansive effect on the scope of educational provision. What, however, are the consequences of these expansion policies? We will discuss this issue in the next section.

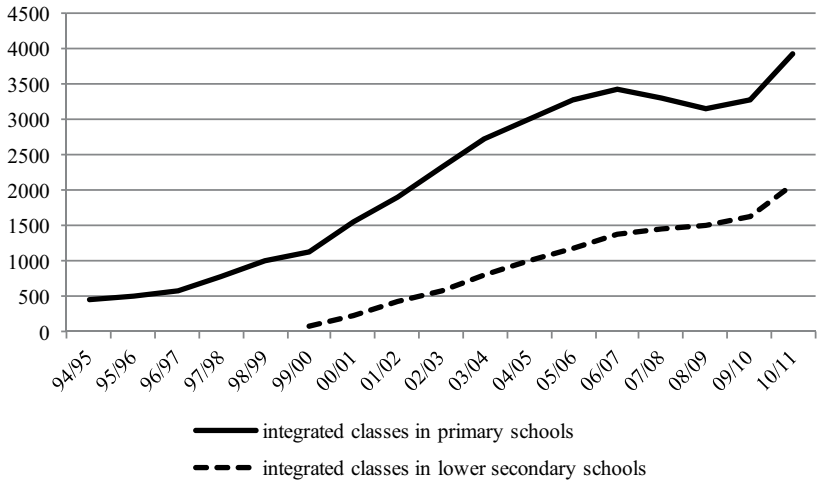

Fig. 7.6 Number of integrated classes in primary and lower secondary schools, 1994–2011. (Source: GUS 2000–2012)

7.3 Consequences of Expansion Strategies

We will discuss the consequences of expansion policies in Polish schooling in three respects. First, we consider their impact on service quality. As a proxy we take student achievements as measured by the international school achievement studies PISA and PIRLS. Second, we turn to financial aspects of expansion and discuss them with regard to the sustainability argument. Finally, we look at the effects of the expansion policies on the dynamics of the labour market for teachers.

7.3.1 School Quality

There is a widely held notion of expansion in public services being unproductive and wasteful. This supposition is actually at the heart of the new public management movement, which has been on a mission to remodel the governance structure of public services in order to stop expenditure growth (Kirkpatrick et al. 2005). One of the core ideas constituting this ideological turn in thinking about public services has been a changed relationship towards professional groups (Wilding 1997, 1992). While the professions were once safeguards of equality and universality of public services, the doctrine of the New Right has cast them as influential power groups in pursuit of their vested interests and not of the public good (Hood 1995; Crompton 1990). Inefficiency and high costs of services have been considered an effect of this "producer-driven" character of public provision. Expansion in public services has been the result of the professionals' self-interest in maximising budgets with no positive effect on the quality of services (Kirkpatrick et al. 2005). In this light,

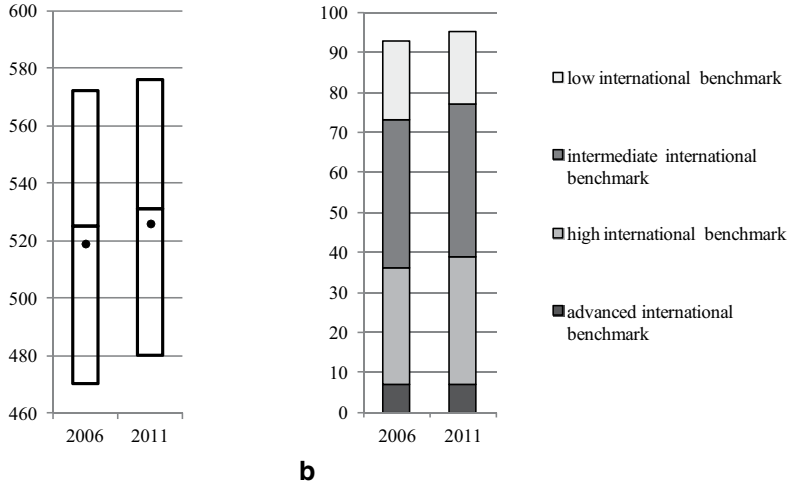

Fig. 7.7 a Student performance distribution. 25th, 50th and 75th percentile as well as mean performance (point). (Source: PIRLS 2007, 2012) **b** Percentage of students reaching each benchmark. (Source: PIRLS 2007, 2012)

the preferred option should be to set strict limits on public spending. Contrary to this conclusion, however, the example of the Polish educational reforms shows that investment strategies may indeed have a positive impact on the quality of schooling. In the following, we consider the effects of educational expansion in Poland on students' educational achievements from the late 1990s onwards. We use the results of the international student assessment studies PISA and PIRLS to do so.

Both studies show that Poland was able to improve student performance in the period under observation, both with regard to the overall level of performance as well as in terms of equity. Fig. 7.7a and b summarise the results of the PIRLS study. Poland took part in this study in 2006 and again in 2011. Only 10-year-olds (that is, third-grade students) were tested. We do not refer to the results of TIMSS because Poland so far has participated in this study only once (2011); therefore there is no basis for a comparison over time.

We see clearly that within the five-year period between 2006 and 2011, Polish students significantly improved their performance in reading. The mean performance increased by seven points. At the same time, the improvement was more pronounced within the group of low achievers. The lowest-achieving 25% improved by ten points. If we consider the percentages of the student population reaching each of the proficiency levels (advanced, high, intermediate and low), we see that in 5 years the share of students achieving the intermediate international benchmark rose from 73 to 77%.

This picture is congruent with the results of the PISA study. Poland has participated in each PISA wave, starting in 2000. PISA covers three fields of proficiency: reading, mathematics and science and asseses students according to five levels of proficiency, the fifth being the highest level. However, due to instrument calibration, only data on reading literacy are fully comparable across all four waves.

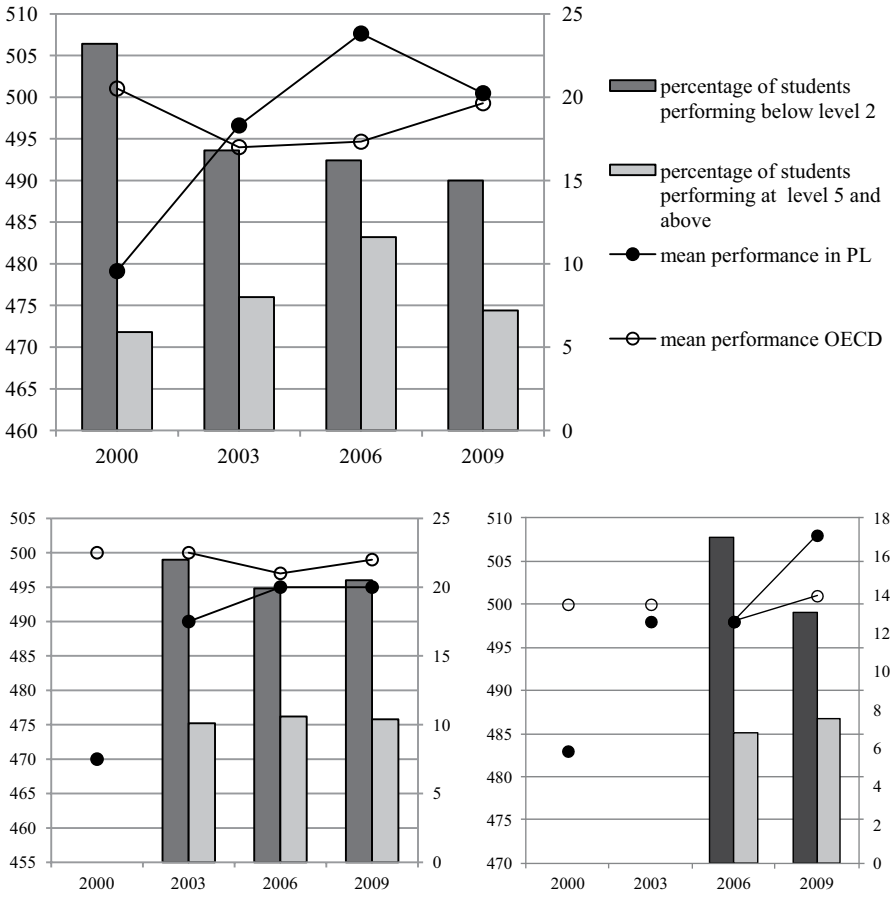

Fig. 7.8 Student performance indicators in reading, mathematics and science respectively, 2000–09. (Source: PISA 2000, 2003, 2006, 2009)

Students who took part in PISA 2000 at the age of 15 attended schools according to the old system. Those tested in 2003 were the second cohort to attend the newly established lower secondary school. The data are summarised in Fig. 7.8.

We can see that Polish students improved their performance in each field of proficiency. In mathematics and science there was an increase of 25 points in mean performance since 2000. With respect to reading, the mean performance was at its peak in 2006 with a remarkable rise by almost 30 points compared to 2000, only to fall to near the OECD average 3 years later. The overall increase in mean performance in reading between 2000 and 2009 was 21 points. As we have already noted with respect to the PIRLS study, Poland saw particular improvement in the group of low-achieving students. In all fields assessed, there was a substantial decrease in the percentage of students performing below the second level of proficiency:

from 23 to 15 % in reading, from 22 to 20.5 % in mathematics and from 17 to 13 % in science.

Bearing in mind criticisms of international assessment studies (Goldstein 2004; Kreiner 2011; Rochex 2006) and being well aware of the crudeness of the indicators presented here, we conclude that educational reforms in Poland have had a substantial positive impact on student achievement. Especially relevant is their effect on the group of low-achieving students, who benefited the most from educational expansion (OECD 2011). Expansion policy in education in Poland has therefore proved to have brought real gains in service quality. However, at what price have these improvements come? We now turn to the issue of educational financing and examine the consequences of expanding educational services for financial stability.

7.3.2 Fiscal Stability

According to Offe (1975), the core function of modern capitalist states is the maintenance of the conditions of capital accumulation. For this reason, the state engages in productive activities and delivers goods and services that are necessary for the accumulation process to run smoothly, but which the units involved in the accumulation process for a number of reasons cannot produce on their own. One of these services is general education—i.e., the development of human capital—which is no doubt a crucial resource for the economy. At the same time, the state plays a role as an allocation unit and in this way secures for itself the means necessary to engage in productive activities. In order to maintain favourable conditions for the accumulation process, these two functions, the allocative and productive function, have to be balanced. Expansion of public services can potentially disrupt such balance and pose a threat to the accumulation process. While discussing expansion policies, it is therefore necessary to study the effects of service expansion on the fiscal stability of a given political unit. With regard to Polish expansive policies in education, we intend to look at the level and the development of public expenditure in this area. We then analyse the structure of expenses understood as the share of educational spending borne at different governance levels of the Polish state as well as possible implications at the local level.

Figure 7.9 provides an overview of the trend in the absolute expenditure for education, expressed in Polish Zlotys (PLN), including educational expenditure of the central government and at the local level as well as relative to GDP.

We can see a steady increase in investments in education both on the part of the central state and the local authorities. It is noteworthy, however, that local spending grows faster, which is represented by the growing gap between the amount of educational subsidies that the local authorities receive from the central budget and the overall level of expenditure. Yet this increase in expenditure on education does not translate into a growing share in GDP, which hovers around 4 % during the whole observation period. If we take the proportion of GDP as an indicator of the burden that the productive function of the state in the field of education imposes

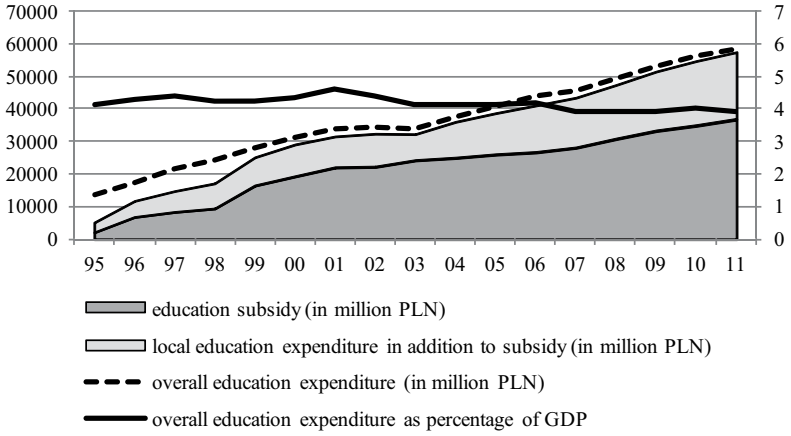

Fig. 7.9 Expenditure on education in Poland in PLN and in percentage of GDP, 1995–2011. (Source: GUS 2000–2012)

on the process of capital accumulation, then we could conclude that expansion in Polish education has not put any additional strain on the national economy and, in general terms, can therefore be regarded as sustainable. In the face of the growing discrepancy between central funding and the overall expenditure in education, it is, however, necessary to check whether growing expenses for education might have a negative impact on the conditions of capital accumulation at the level of local communities. The relevant question here is to what extent increased spending on human capital production might impede other fields of state activity that are important for maintaining capital accumulation as well. We suppose that one such field is municipal investment, as it is mostly concerned with the modernisation of municipal infrastructure to create favourable conditions for economic activity. Based on the data acquired for analyses of municipal expenditure on different age groups in two voivodships in Poland (Masovia and Łódź) (Kopycka 2009), we calculated a linear regression model in order to determine the effects of local spending on education on the investment activities of municipalities. The results are summarised in Table 7.1.

As we can see, the effect of the share of educational costs in overall expenditure on the share of direct investments is substantial and negative, explaining approximately 50% of the variance for the two voivodships. Most importantly, the slope of the regression line is almost diagonal, meaning that with every percentage point of growth in the share of educational expenses, the share of investments in overall expenditure falls by approximately one percentage point. The results therefore suggest an almost absolute trade-off between educational spending and municipal investments, whereas other categories of expenditure remain rather unaffected. This being the case, we conclude that under the current system of educational financing, the expansion of education at the local level might hamper the investment capacity of local administrations and potentially undermine local economic growth. However, the problem seems to lie more in faulty mechanisms of educational financing that fail to take regional disparities sufficiently into account (Herbst 2008; Herbst et al. 2009) and not so much in expansion as such, as the analysis of national data

Table 7.1 Share of investment expenditure in overall municipal expenditure in Masovian and Łódź Voivodship in 2005. Linear regression. (Source: Our own calculations based on the Polish Local Data Bank (GUS 1995–2013))

	Masovian voivodship	Łódź voivodship
Share of current educational expenditure in overall expenditure of a municipality	−1.02***	−1.01***
Intercept	57.06***	54.02***
Pearson's R2	0.55	0.50

*$p<0.05$; **$p<0.01$; ***$p<0.001$

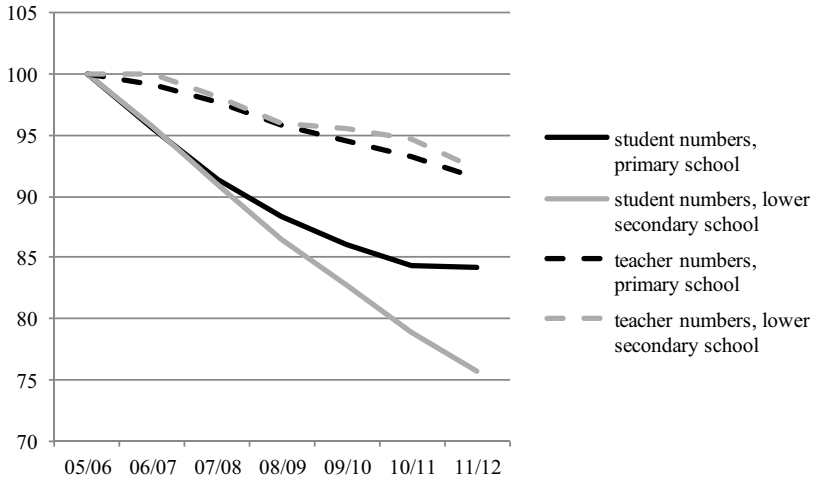

Fig. 7.10 Teacher (full-time equivalents) and student numbers expressed as a percentage of the baseline year of 2005/2006, years 2005–2011. (Source: GUS 2000–2012)

indicates stable expenditure levels over time. In the next section we discuss the consequences of expansion for teacher employment.

7.3.3 Teacher Labour Market

The policy of expansion in the Polish education system has had a major influence on teacher employment. In general terms, it has generated additional demand for teachers and, in so doing, has counteracted the effects of falling enrolment, thus minimising the pressure to reduce personnel. This compensating effect is most pronounced when we compare trends in student numbers and teacher employment levels (Fig. 7.10).

Apart from increasing the number of teachers relative to student numbers, which offsets the effect of lower levels of enrolment, the reform in 1999 and the subsequent expansive policies in education have also had important consequences for the age distribution and intergenerational renewal of the teacher workforce in Poland. The expansion in educational provision has allowed Poland to avoid various

problems associated with the discontinuous employment of teachers that arise from personnel reduction policies. We will discuss these aspects in more detail.

As a rule, there is great reluctance in modern democracies to lay off personnel in the public sector (Bach 1999). Personnel reductions happen most often incrementally in the course of voluntary turnover and retirement of older employees (*internal labour market hypothesis*, Chap. 3, see also Chap. 9 and the literature cited). One of the negative effects of employment cutbacks via retirement and employment freezes is the hindrance of generational renewal both in organisations and the labour market in general and the subsequent problems that this entails (Lutz 2000). On the one hand, the flow of new human capital into organisations is hampered because no new employees are hired. With regard to schools, many perceive the absence of any significant personnel turnover as a threat to innovation in education as well as its overall quality (Weishaupt 2002; Neumann 1990). On the other hand, the demographic structure of the organisation becomes unbalanced; apart from rising personnel costs in employment models based on seniority pay (which is common in public services) (Pilichowski et al. 2007), this produces major recruitment problems in the long run as the majority of the workforce retires within a short span of time. West German schools are an excellent illustration of this process (Jeschek 2003; Kultusministerkonferenz 2003; Klemm 2011). One of the consequences of a tight labour market due to high demand is pressure to compromise qualification requirements when recruiting new employees, which potentially endangers service quality and poses the threat of deprofessionalisation (Korneck et al. 2010). Additionally, young graduates entering the profession face a high unemployment risk (Henecka and Lipowsky 2002; Heinemann et al. 1990; Furck 1986; Havers et al. 1983; Parmentier and Stooss 1989). High unemployment rates act as a signal of low career prospects and discourage students from training for the profession in question, which exacerbates the problem of shortages of qualified labour in the future. A result of these processes are vicious cycles of oversupply and shortage, as found by Titze (1990) and collaborators for all traditional academic professions (theology, law, medicine and teaching) throughout German history. Besides other factors, one condition determining such periodic dynamics is the principle of lifelong employment, where a hiring freeze becomes the only feasible option to reduce personnel. With respect to alternative reduction policies and their impact on the demographic structure of the teacher workforce and labour-market dynamics, a simulation study by Denton et al. (1994) offers interesting insights. The authors compare policies of early retirement, seniority-based layoffs and proportional layoffs for all teacher cohorts for their respective effect on the median age of the teacher workforce. They indeed find that the strongest variations in the median age, which is a good indicator of an imbalanced demographic structure of the workforce, are produced by a seniority-based personnel reduction strategy. In the long run, hiring freezes therefore destabilise the labour market and lead to crises of oversupply and shortage. In the medium term, they destabilise the demography of an organisation, inhibiting learning on the job and the passing down of organisationally specific knowledge and/or elements of organisational identity, which are decisive for an organisation's uniqueness. One of the interviewed head teachers indeed reveals such concerns.

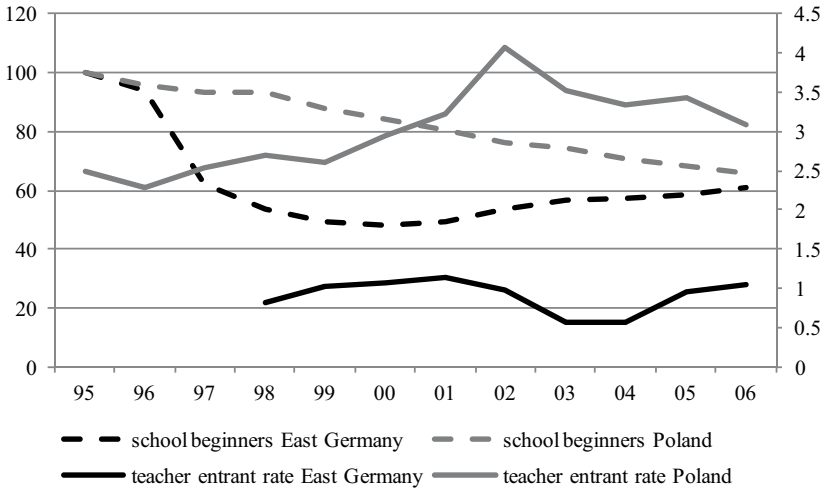

Fig. 7.11 Development of school beginner numbers and teacher recruitment rates, 1995–2006; Statistisches Bundesamt 1999–2007. Note: Entrant rates for Poland approximated on the basis of teacher age distribution in 2006. (Source: MEN 2005–2007; GUS 2000–2012)

> I have such a cross section of people, from more than 30 years of tenure to zero, so there are people of various ages/And this is an advantage of this school, such that anytime/never will too many people leave a school at once. They will leave one at a time, and then, so to speak, the character of the school won't change. Because the worst situation is, for example, when half of the teaching body leaves. Then the change will be either positive or negative, but it won't be the same. (Mielcz GYM:118–122)

In real-world systems, because of employment protection regulations and a specific understanding of work in the public sector involving stable employment relations as a normative standard, hiring freezes are a necessary element of any personnel reduction strategy. One of the consequences of the policy of expansion is, by contrast, that this kind of restricted access with all its negative effects can be avoided or at least minimised. A comparison of teacher entry rates in East Germany and Poland in a situation of falling enrolment serves as an illustration (Fig. 7.11).

As we can see, in the face of declining enrolment, teacher entry rates remain high in Poland (between 2.5 and 4 % of all employed teachers), whereas in East Germany the rates are very low: between 0.5 and 1 %. In Poland we can clearly see the effect of the educational reform on entry rates between 1999 and 2002. They also remain high in subsequent years as expansion offsets lower levels of enrolment. Entrant rates of approximately 3 % annually guarantee a stable demographic structure of the workforce, as we can see in the Polish case (Fig. 7.12).

Again we can see the expansionary effects of the educational reform in 1999. The distribution is bimodal, with a second mode lying approximately at the age of 30 in 2007. Most probably these persons entered schools during the time when the lower secondary segment of the system (3-year lower secondary school) was being established, i.e., between 1999 and 2002.

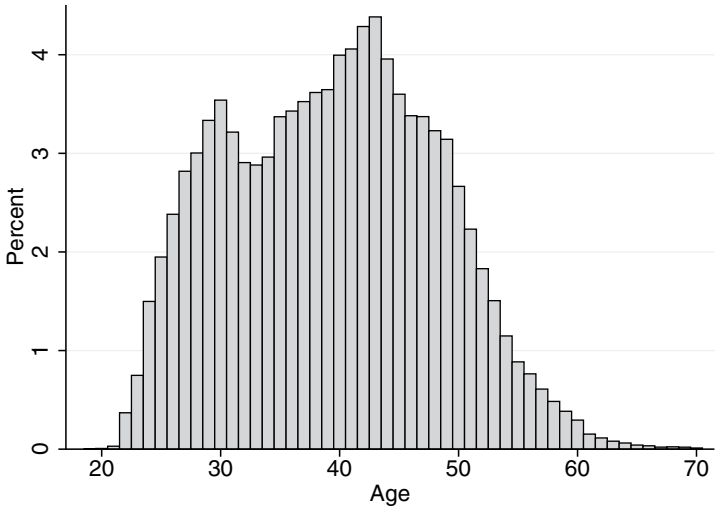

Fig. 7.12 Age distribution of teachers in Poland, 2007. Percentage histogram. (Source: MEN 2005–2007)

A look at age distributions differentiated by school type and teacher specialisation reveals interesting insights that were not apparent in the aggregate view. At the same time, it offers more direct evidence of the impact of the educational reform and curriculum changes on teacher employment and the rejuvenation of the teacher workforce. We start from the effects of introducing the lower secondary school (Fig. 7.13).

We see that the newly established lower secondary schools channelled the inflow of young teaching graduates into the school system. To a great extent they were recruited from the external labour market. The positive effect of the appearance of new organisations on the dynamics of the labour market corresponds to the literature (Windzio 2003; Carroll et al. 1990). Organisational births and deaths are responsible for a substantial share of labour mobility in the labour market (Windzio 2004). In the case of Polish schooling, many elderly teachers in shrinking primary schools would rather opt for early retirement than transfer to a new lower secondary school, where they would be confronted with new instructional schemes requiring substantial preparatory effort. This has left room for the employment of young graduates in lower secondary schools.

A similar effect has resulted from changes in curricula that were introduced throughout the 1990s and the 2000s. Curriculum changes have reshaped the demand structure for different teacher specialisations, which, in the face of very strict legal requirements regarding teacher qualifications in Poland (Kopycka 2013), could only partly be met intragenerationally via requalification. There has been a substantial expansion mainly in Western foreign languages (English, German, Spanish and French have almost exclusively replaced Russian), phisical education and

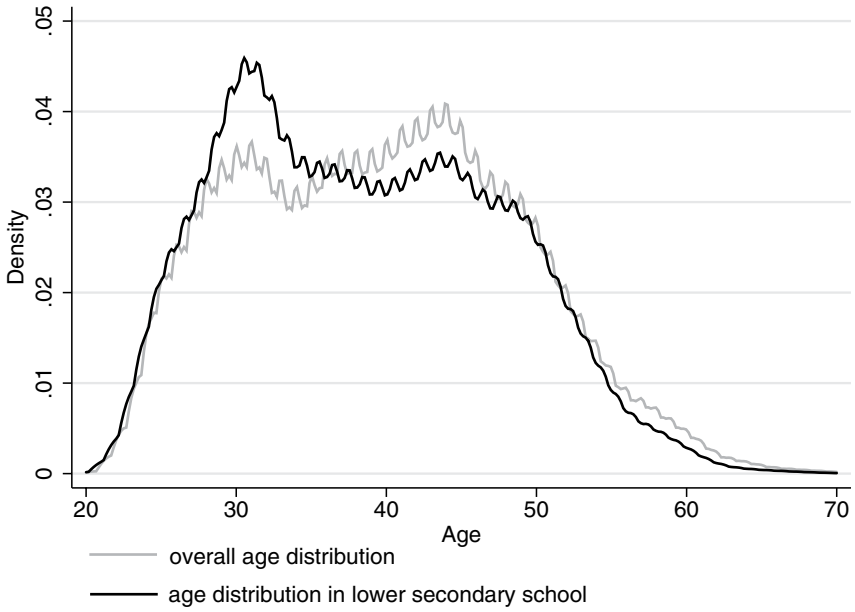

Fig. 7.13 Age distribution of teachers overall and in lower secondary school in Poland, 2007. Kernel density. (Source: MEN 2005–2007)

information science. Figure 7.14 presents the age distributions of teachers specialised in these subjects.

We see a major rejuvenation effect in languages and physical education, yet not in information science. Apparently, already employed teachers have been more eager to acquire additional qualifications in information science than in Western languages or physical education. Curriculum change has therefore been another factor that has dynamised the teacher labour market and has again induced additional personnel needs that could barely be met by the currently employed teachers.

7.4 Concluding Remarks

In this chapter, our concern has been to evaluate the strategy of expansion in public service provision with respect to its potential benefits in tackling the problems arising from demographic changes. A common theme in the literature on demographic ageing and shrinkage is the implicit assumption of the necessity to adjust public service provision to lower levels of demand, an adjustment that takes the form of reduction. The argument most often used to support the policies prescribed along such lines is the idea of sustainability or fiscal stability of political units. If we consult Offe (1975), the concern is to balance the allocative and productive functions of the state so as not to jeopardise capital accumulation, whereby the general belief

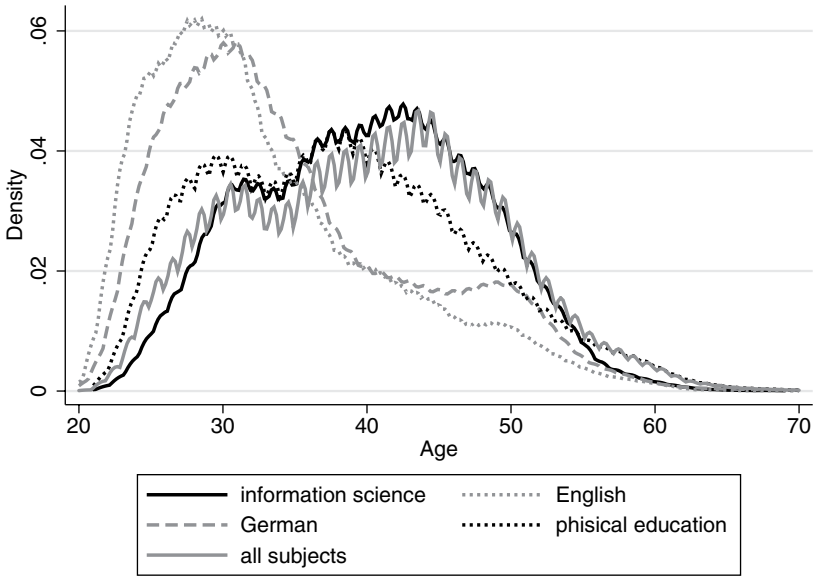

Fig. 7.14 Age distribution of teachers in Poland by subject of instruction, 2007. Kernel density. (Source: MEN 2005–2007)

is that the most reasonable course of action is allocating less to the productive function (i.e., reducing the size of public services). If we were to think outside the box for a moment, then it would become apparent that the problem lies less in the overall scope of public expenditure and more in the question as to what extent public services contribute to creating and maintaining favourable conditions for economic activity. According to this perspective, keeping the production of public services at high levels despite falling numbers of beneficiaries may be a legitimate alternative to reducing public services in proportion to the decrease in service population, provided there is a return on increased investment. One possible way of achieving this is to increase the quality of services, so that those services provide better 'material' to be utilised in economic action. In the field of education this could mean, for example, raising the quality of instruction so that students leaving school would be equipped with higher levels of human capital and in this way be more beneficial to capital by providing a more productive workforce. Another option is to extend the range of services so as to deliver new goods. An example here could be involvement in adult education, as postulated by Baum and Seitz (2003). This chapter offers some insight into the first variant, an increase in the quality of services. On the example of educational expansion in Poland, we have been able to study the effects of such a policy. Both the data to which we refer and our analysis show that student achievement has improved substantially as a result of educational reform and subsequent incremental expansion policies. At the same time, the potentially negative effects of reduction in service provision were avoided, as we have demonstrated

with respect to labour economics issues. We have also shown that expansion policies do not necessarily lead to financial instability. Although growing considerably in nominal terms, educational expenses in Poland remain at a stable level of about 4 % of GDP. Therefore, bearing the limitations of our partially constricted view in mind, we can cautiously speak of the Polish education policy of the last decade of the twentieth century and the first decade of the new millennium as a success story in dealing with the effects of demographic changes. However, an important caveat is warranted. Although the reforms have raised the performance level of low-performing students, substantial increases in the share of students performing very well could not be achieved. The numbers of high achievers stagnated in spite of the reforms. Education of highly talented students is therefore definitely a field requiring further consideration in the future.

Last but not least, we believe it necessary to touch upon the issue of the intentionality of the expansive policies in education in Poland with respect to demographic changes (Kopycka 2008). If we adopt a strong definition of strategic political action as a goal-oriented, intentional process of decision making, then reforming education in Poland can by no means be called a strategic reaction to demographic changes. Instead, the educational reform in 1999 was on the one hand motivated by the very low performance of Polish students compared to students in Western democracies as well as in other post-socialist states, which became evident in the early 1990s. On the other hand, the permanent obstruction of projects to reform the educational sector under the communist regime in Poland generated increased pressure for change after the transformation. As for expansive policies in education at the local level, they present rather incremental moves that can be described as following the "logic of appropriateness", a term coined by (March and Olsen 1996) in their neoinstitutional approach to the theory of political action. Only to the extent that local expansion initiatives can be attributed to the actions of professional groups, which find their economic interests threatened by the demographically induced reduction in demand for professional services, can such initiatives be regarded as a direct response to demographic pressures. Such a one-dimensional picture, however, is inconsistent with our empirical evidence. Therefore, the positive effect of the policy of educational expansion on the handling of demographic pressures is most precisely described as a positive externality or an unintended consequence of rational action (Boudon 1980) rather than a deliberate strategy understood as the planned behaviour of organisational units (Mintzberg and Waters 1985; Mintzberg et al. 1999). In Mintzberg's terms, we could speak of an emergent strategy in the absence of intentions. This fact notwithstanding, the Polish example offers valuable insight into the potential of expansion strategies and, in so doing, proves that they pose a serious alternative to retrenchment also in the public service sector.

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Chapter 8
The Demographic Responsiveness of Education Demand and Supply at Different Levels of the Education System

Abstract Will foreseeable demographic change lead to savings in the educational sector? This question is investigated in a retrospective perspective on the basis of data from Saxony-Anhalt, the German state with the largest population decline since reunification. The results show that we can observe economisation strategies in the face of lower cohort sizes in most subsectors of the education system. These strategies are, however, not always (directly) attributable to demographic decline. Moreover, there is considerable variation in the demographic responsiveness of education demand and supply. While infrastructures can be said to have been adapted to declining demand in early childhood education, schools, and vocational education, demand for higher education has been rising almost continuously over the last 25 years. This rise points not only to a growing demand for higher education after the end of the GDR, which had rationed higher education, it also points to recent political policies to raise the traditionally low participation rates in higher education in Germany. The partially observable economisation strategies in higher education are attributable to more general strategies of rationalising public administration in the (post)transformation process and to demographic decline affecting state revenues via a decreasing tax base and intergovernmental transfers.

8.1 Introduction

Demographic change is usually perceived as a challenge for modern societies because inherited social structures tend to become inadequate for populations changing significantly in size or age composition. Almost all developed countries face ageing populations, and many European and Asian countries are seeing declining populations as well. These population trends are expected to raise public expenditure for pensions, health and care whereas demand for education expenditure and unemployment benefits might decline (European Commission and Economic Policy

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Committee 2010, p. 26). Lower expenditure in education could contribute to offsetting higher costs in other policy fields, or funds saved could be reinvested in improving the quality of educational services (CEDEFOP 2009). However, budgetary projections based on demographic data assume, firstly, that total enrolments decline with smaller birth cohorts and, secondly, that education expenditure can and will be adjusted quite flexibly to total enrolment numbers. But are these two assumptions true? How responsive are different levels of the education system to demographic decline?

Contrary to simplistic projections based mainly on the mathematically accurate extrapolation of demographic trends, this chapter aims to shed light on the role played by the specific institutional makeup of particular levels of the education system and political decisions in response to demographic changes. Expectations of a high demographic responsiveness of educational demand make sense if certain conditions are met. Under the assumption of a comprehensive and territorially limited education system with stable participation rates, declining population numbers will lead to less demand for education services (*responsiveness-of-demand hypothesis*). In Germany, primary schools come closest to meeting this condition. Primary schools include virtually all members of a birth cohort in a given territorial unit (except those schooled in special needs schools) as schooling is compulsory and mobility across territorial borders is rather limited since the freedom to attend schools outside the respective school district is more or less restricted. Consequently, participation rates are constantly high. At other levels of the education system, additional factors such as individual participation decisions limit the influence of demographic change on enrolment. On the supply side, the education infrastructure established by the welfare state is spread out geographically in order to provide equal opportunities of education. The spatial pattern of this network is more decentralised at lower levels of the education system and more centralised at the higher levels. Education capacities at each level are geared towards certain (sub)population sizes, balancing pedagogical, political and economic concerns to a certain degree. The spatial pattern and the overall capacity of the education system as well as its organisational structure are subject to continuous political debate. Under the assumption of political and administrative regard for economies of scale, it is hypothesised that demographic decline creates pressure to economise on oversized education infrastructures (*economisation-of-supply hypothesis*). Nevertheless, retrenchment strategies always have to face politically competing claims of providing equal access to the education system for all. Especially in early childhood and primary education, decentralised service provision is often regarded as a crucial feature of the quality of education services. Hence, it is an empirical question how demographically responsive demand and supply are at particular levels of the education system.

Complementary to the international comparison of coping strategies in Chap. 6 and the in-depth analysis of the expansion of the Polish school system in Chap. 7, the present chapter aims at a comparative analysis across different levels of the education system. The responsiveness of the education system to demographic decline will be investigated on a regional scale. On this relatively small scale, demographic

changes are far more pronounced than on the larger national scale. A demographically shrinking region is defined as a subnational territorial unit with declining population numbers on average over at least 5 years. According to this criterion, East German regions are very interesting cases for closer examination as they have lost considerable amounts of their population since reunification due to lowest-low fertility rates during the 1990s (Kohler et al. 2002; Lechner 2001) and outmigration mainly to West Germany (Mai 2004). Since in Germany the responsibility for legislation on education rests with the German states, the analysis concentrates on the state level rather than on some smaller scale (e.g., the county level). Furthermore, this article focuses on comparing the various levels of the education system rather than spatial differences, which is a more common and of course equally important object of research. Saxony-Anhalt is the German state with the largest population decline during the last 20 years (−17.3% from 1991 to 2010).[1] The following analysis will therefore be based on official data from the Statistical Office of Saxony-Anhalt.

The paper is structured as follows. The second section will elaborate the particular approach pursued in the present chapter. Section three analyses descriptive statistical data on the different levels of the education system in Saxony-Anhalt and draws a comparison across the educational levels analysed using bivariate regressions. The chapter ends with a discussion of the findings and limitations of the chosen approach.

8.2 The Demographic Responsiveness of the Education System

According to previous research, an economisation of the education system in the face of demographic decline does not seem very probable (for an overview, see Bartl 2014, pp. 373–376). This view is basically rooted in the traditional self-description of modern welfare states as providers of equal access to education. On the demand side, the (political) definition of new target groups might offset the impact of regional population decline on enrolment. On the supply side, providing access to education is regarded as a public good, which is politically protected by all (or most) political parties. Furthermore, education infrastructure serves as an asset in the competition among localities and regions. From this point of view, developing or maintaining a high supply of education infrastructure for political reasons seems to be probable even in the face of high unit costs. But is there no regard for economic reasoning in education policy?

Theoretically, the relevance of smaller birth cohorts entering the (mostly) consecutive levels of the education system over the course of their lives is highly dependent on the educational governance regime at the particular level in question. For the purpose of the present chapter, three dimensions of governance are relevant:

[1] In other East German states, population decline was significantly lower: e.g., in Mecklenburg-Western Pomerania −13.2% and in Thuringia −13.1% (our own calculations based on Statistisches Bundesamt, 2012).

inclusiveness, internal differentiation and the degree of commodification (a brief discussion of other conceptions can be found in Windzio et al. 2005, pp. 4–6). These dimensions are partially related to each other and can be further specified into subdimensions.

The inclusiveness of an education sector depends on the normative basis for participation in education, on the one hand, and on actual participation rates in education, on the other. The normative basis for participation in education is often symbolised by a guiding idea legitimising an institutionalised order (Lepsius 1995). The normative idea of educational inclusiveness can be formally codified, as in compulsory schooling, or become manifest informally in participation patterns in optional education programmes. Both forms of institutionalisation reflect normative expectations towards standards of welfare provision. Theoretically, educational levels requiring compulsory participation are more susceptible to declining cohort sizes than are levels with voluntary participation because the former are supposed to include all members of certain age groups. Educational levels based on voluntary participation might nevertheless come close to universal participation, in which case they are similarly sensitive to demographic change. While primary school attendance has been established as part of compulsory education in most parts of the world, especially after World War II (Meyer et al. 1992), participation in (upper) secondary education is still voluntary in many countries worldwide (World Bank 2006, p. 70), as is attendance of early childhood and higher education in most cases. Although true for the most part, certain countries, such as Japan, for example, have reached universal inclusion in higher education, making demand for services highly responsive to demographic decline (Yonezawa and Kim 2008; Vincent-Lancrin 2008).

Furthermore, the internal differentiation of an education sector determines if the whole sector is affected evenly by demographic decline or if some parts are more vulnerable than others. In hierarchically differentiated education sectors, the lower tiers should be more responsive to demographic decline than the higher tiers. In the latter case, growing demand for university entrance credentials can offset declining cohort sizes. In Germany, for example, primary education is the only (almost) comprehensive level of schooling, whereas the several tiers of secondary schooling are hierarchically differentiated according to the social value of the credentials particular school types offer. Moreover, a high level of horizontal differentiation (e.g., specialisation by subject) requires relatively large organisational units, more centralised service provision and higher mobility of target groups. This is quite obvious when, for example, primary and higher education are compared. Corresponding to the age and age-related capacities of the target groups, horizontal differentiation is more pronounced in higher education than at lower levels of the education system. However, resulting student mobility might have an impact on the responsiveness of demand for education services to changes in the size of birth cohorts.

Having specified the *responsiveness-of-demand hypothesis*, we must also discuss how changes in demand could affect the provision of education and, hence, public expenditure. The assumption of a demographic responsiveness of education supply is only plausible if there is an institutionalised mechanism ensuring the adaption of education facilities to (possibly) changing demand. In this respect,

the third dimension of educational governance treated here, the degree of commodification of education services, becomes relevant.

The division of labour between community, state and market in funding education services is reflected by the degree to which education is commodified. Commodification describes a "process by which a service or item is transformed into a tradable good, where a provider of this service or good increasingly acts in a profit-oriented way" (Sackmann 2007, p. 157). Following this perspective, three types of education providers can be distinguished:

- decommodified public providers, acting according to ideological aims,
- not-for-profit private providers (NPOs), seeking to maintain their resource base by operating in a cost-covering manner, and
- private for-profit providers (Sackmann 2007, p. 157).

Recently, with the spread of new public management ideas (Pollitt and Bouckaert 2011), political concern for monetary resources has become more prominent even within the decommodified public sector. Growing concern in fiscal matters among public providers and commodification are two dimensions of a more general concept of economisation (Schimank and Volkmann 2012). As education (in Germany) is mostly provided by public and not-for-profit private organisations, ideologically motivated and cost-neutral responses to demographic decline should prevail. Due to the in-kind calculation of public services (usually public goods per head, Chap. 5) during planning and evaluation processes and related funding mechanisms, demographic decline can lead to financial pressure on education services. If, in the face of demographic decline, public authorities exert financial pressure on decommodified public providers or outsource service provision to not-for-profit private entities, which have to operate in a cost-covering manner, this will nourish the economisation of education (*economisation-of-supply hypothesis*). However, not all units at a particular educational level are subject to the same pressure, as exposure to such pressure varies by the size of education establishments. Smaller establishments can be expected to face greater financial pressure than larger ones.

The following empirical part of this chapter is arranged according to the sequence in which birth cohorts enter the levels of the education system during the course of their lives. It starts with an analysis of early childhood education and care, followed by primary, secondary and vocational school education, and finally the higher education sector.

8.3 Demographic Responsiveness of the Education System in Saxony-Anhalt

The demographic responsiveness of each level of the education system is analysed based on the cohort size of the targeted age group, on the one hand, and on enrolment numbers and the number of infrastructure facilities or amount of staff employed, on the other.

8.3.1 Early Childhood Education and Care

Early childhood education and care is the first level of the education system affected by low fertility rates. As participation at this level is voluntary in most countries, the extent of that impact varies with the rate of participation in institutional services. The provision of early childhood education and care is very well developed in East Germany due to its traditional dual-earner model from state-socialist times (Hering 2009). In the German Democratic Republic (GDR), there was universal access to childcare institutions. During the later years of the GDR, 80 % of children younger than 3 years and 95 % of children aged 3–6 were in institutional childcare (Roloff 2007, p. 136); p. 136; lower values are reported in Hank et al. 2001. After reunification, these institutions were transferred from the central state to local self-government. Despite voluntary participation, such a high saturation of the 'market' makes childcare institutions highly vulnerable to demographic decline.

Assuming that children younger than 6 years are the main target group of childcare institutions, Fig. 8.1 depicts the population sizes of this age group for the years 1991–2010 and the number of children in childcare centres for the years 1994–2010.[2] Due to missing values for the very first years of the transformation, significant changes in enrolment are not captured. The population younger than 6 years old decreased by 51 % from 1991 to 1997 (from 192,000 to 94,000 children). After this drop, the size of this age group did not vary much anymore. On the face of it, the curve of the total number of children in childcare institutions shows quite a surprising development: from 1994 to 1998, it follows the trend, if not the proportion, of the population decline. Thereafter, it becomes completely decoupled from the demographic development. The absolute number of children in childcare institutions even surpassed the population size of the under-6-years-olds by around 20,000 children every year. This puzzle is solved by splitting the total number of children in institutional childcare into two age groups (Fig. 8.1). The number of children younger than 6 years old enrolled in childcare decreased roughly proportionately to the total number of children in the respective age group in Saxony-Anhalt. This development could be expected from the initial assumption about the relevance of institutional participation rates as intervening factors in the relationship of cohort size and absolute enrolment numbers. High participation rates in voluntary education sectors make them highly sensitive to demographic decline. While this holds true for the age group under 6, total childcare enrolment becomes decoupled from the declining demographic trend through—at first glance somewhat surprising—additional enrolments of children in after-school care. In the period analysed, after-school care was transferred from primary schools to early childcare centres. The number of children from 6 to 10 years in after-school care increased from 1000 in 1994 to 52,000 in 2010. With respect to the transformation years after 1994,

[2] From 1994 to 2002 official statistics were recorded only every 4 years. Furthermore, the statistics counted only available places, not actual children in institutions in this period. Enrolled children have been counted from 2006 onwards. The years mentioned in this article always refer to the beginning of a school year: for instance, 1991 refers to the school year 1991/1992.

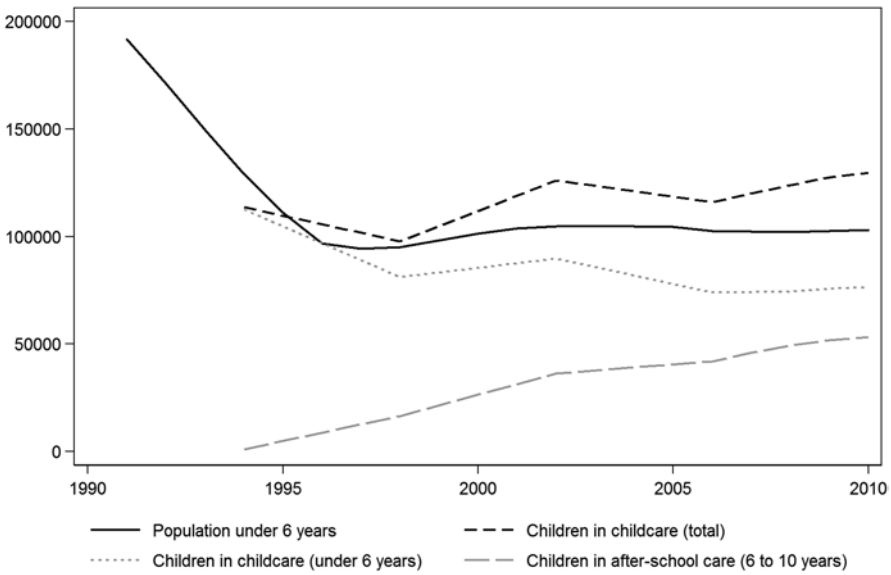

Fig. 8.1 Population under 6 years and participation in childcare in Saxony-Anhalt (1991/1994–2010). (Sources: Statistisches Landesamt Sachsen-Anhalt; Statistisches Bundesamt 1994–2012)

this increase even overcompensated for the losses in the younger age group. This is quite a typical development for East Germany. Therefore the available places in after-school care in East Germany rose between 1990 and 2002 from 22 to 41 % (Statistisches Bundesamt 2004, p. 36).[3]

On the supply side, the number of childcare centres in Saxony-Anhalt decreased from around 2000 to 1700 between 1994 and 1998 (Fig. A8.1 in the online appendix).[4] During the following years, the number of institutions remained fairly stable at about 1700 due to the compensating demand effect of rising enrolment in after-school care. Nevertheless, the remarkable stability of the total number of childcare centres in the later period of analysis (1998–2010)[5] conceals economising strategies in the early childhood education system. Firstly, the transfer of public childcare centres to not-for-profit providers reduces public costs. NGOs do not

[3] Other authors report a more constant participation rate for after-school care of around 30 % between 1990 and 1999 based on data from the German Socio-Economic Panel Study (SOEP). Note, however, that only small variations in the classification of age groups can lead to considerable changes in values (Hank et al. 2001, p. 17, 9). We can nevertheless not rule out that the observed increase in available places between 1994 and 2002 might be somewhat artificial as responsibility for after-school care originally rested with primary school providers (municipalities) and personnel was employed by the state (as in schools). The transfer of service provision to a NPO was only possible if accompanied by a transfer of public staff (Landtag Sachsen-Anhalt 1993). Such a transfer might have been a precondition for being counted statistically. However, whatever the case may be, the data from 2006 to 2010 validates the overall rising trend.

[4] Data on the supply side is available from 1994 to 2010.

[5] The discussion on data validity in footnote 3 might apply here as well.

receive full coverage of their wage bill from public funds, and employees usually earn less than in the public sector (Bartl 2011b, pp. 205–206). The number of public childcare centres was reduced from 1800 to 1000 and the number of private not-for-profit childcare centres increased from 200 to 700 between 1994 and 2010. This economising strategy becomes even more evident when relative changes are considered (Fig. A8.2 in the online appendix). Secondly, the state of Saxony-Anhalt reduced the parental entitlement to childcare in terms of daily hours for the unemployed to 5 h per day in 2003 (Landtag Sachsen-Anhalt 2003). At the local level, highly differentiated childcare units targeting quite narrow age groups (nursery, kindergarten, after-school clubs) were often reorganised into multifunctional childcare organisations for broader age groups in order to gain organisational flexibility in the face of declining demand. Due to economies of scale in childcare (Bönisch and Tagge 2012), this frequently meant the closure of small units. The number of units with fewer than 20 children (the minimum threshold for childcare centres stated by law [Landtag Sachsen-Anhalt, 1996, p. 227]) declined from 90 to 23 between 1994 and 2002 and subsequently rose again to about 50 small childcare centres, a number that remained fairly stable for the rest of the period analysed. Moreover, from expert interviews it becomes clear that there were numerous closures of childcare centres before 1994 (Bartl 2011b) that are not reflected in the statistical data presented here. Overall, the distribution of childcare centres across the rural-urban divide remained fairly stable: between 1994 and 2010 the share of childcare units located outside of the three urban centres of Saxony-Anhalt (Magdeburg, Halle, and Dessau-Roßlau) increased slightly from 80.8 to 82.2 %.

In concluding this section, it can be stated that demographic decline affects early childhood education and childcare enrolments significantly when participation rates are high. Given low participation rates, such as in West Germany or in Poland, the vulnerability of the early childhood education system to demographic change is also considerably lower (Bartl 2011b). However, compensatory coping strategies might serve to expand the target group of institutional childcare beyond the traditional age groups. The potential for compensatory coping strategies based on recruiting children from other territorial units is very limited at this educational level. Parents commuting from a suburb to the city are the only group potentially interested in such arrangements. On the supply side, the most notable economising strategies analysed here are the closure of units and the privatisation of childcare centres from public to private not-for-profit ownership.

8.3.2 Primary and Secondary General Schools

The high demographic sensitivity of primary and secondary schools is rooted in the compulsory nature of participation in education. In Saxony-Anhalt the compulsory education period ends after 12 years of schooling (Kultusministerium Sachsen-Anhalt 2005, § 40). In Germany, enrolment numbers in the school system are nevertheless not completely congruent to population numbers in the corresponding age group due to the internal differentiation of primary and secondary education and the limited inclusiveness of upper secondary education.

Congruence of enrolment numbers with the total population in the respective age group is greatest for primary schools, which theoretically educate all members of a birth cohort, except for the ones that have been attested as having special education needs. In Saxony-Anhalt these pupils are assigned to special needs schools, an institution with a strong tradition in Germany (Powell 2011).[6] Hence, primary school enrolments are likely to be affected almost proportionately by demographic change.

Contrary to the internationally hegemonic model of schooling, Germany has no comprehensive school system (Wiborg 2010). After 4 years of schooling at the primary level, pupils transfer to secondary school. This is a selective process in that pupils are assigned to different tracks of education according to their perceived abilities.[7] The traditional structure of the West German secondary school system consists of the basic-track school (*Hauptschule*), intermediate-track school (*Realschule*) and advanced-track school (*Gymnasium*). Instruction at a basic-track school is the academically least demanding programme and is geared towards entering vocational training upon graduation—usually after 9 years of overall schooling. The intermediate-track school has traditionally educated students who aspire to enter subordinate white-collar professions but has also become a prerequisite for the more attractive and academically more demanding programmes of vocational education and training (VET). This credential also increasingly functions as a key to alternative routes into higher education. The advanced-track school prepares students for higher education, even though not all of its graduates will proceed to tertiary education. Since the early 1970s, plans to restructure the German secondary school system have concentrated on introducing comprehensive schools (*Gesamtschulen*) for all children in a given school district while offering three different credentials. These reforms became politicised, with the result that only states governed by the Social Democrats introduced comprehensive schools as one of four types of regular secondary schooling (Lehmann 1994). In East Germany, where there had been a 10-year comprehensive school, the West German structures were creatively adapted after reunification (Sackmann 2010, p. 179). One innovation consisted of the creation of schools that integrate basic and intermediate tracks within a common framework. This school type is labelled differently in every state; in Saxony-Anhalt it is called the *Sekundarschule*. Hence, in secondary general education in Saxony-Anhalt, there is in fact a two-tier school system, including said integrated secondary schools with two internal tracks, on the one hand, and advanced-track schools, on the other. The share of comprehensive schools in total enrolment is marginal. Since 2011, the decision about the school career is ultimately left up to the pupils' parents. Previously, the recommendation of a certain track of secondary education issued by the primary

[6] Special education needs might be due to a diversity of reasons, which are catered to by a differentiated system of specialized schools staffed and equipped in order to provide more individualized learning than mainstream schools. The following school types for special education needs are distinguished in Saxony-Anhalt: learning difficulties, cognitive development, emotional and social development, language, hearing, visual impairment, physical development (Kultusministerium Sachsen-Anhalt 2010, p. 33).

[7] The school system in Saxony-Anhalt—similar to the national German school system—corresponds to a regime of sponsored mobility norms in the sense of Ralph Turner (1960).

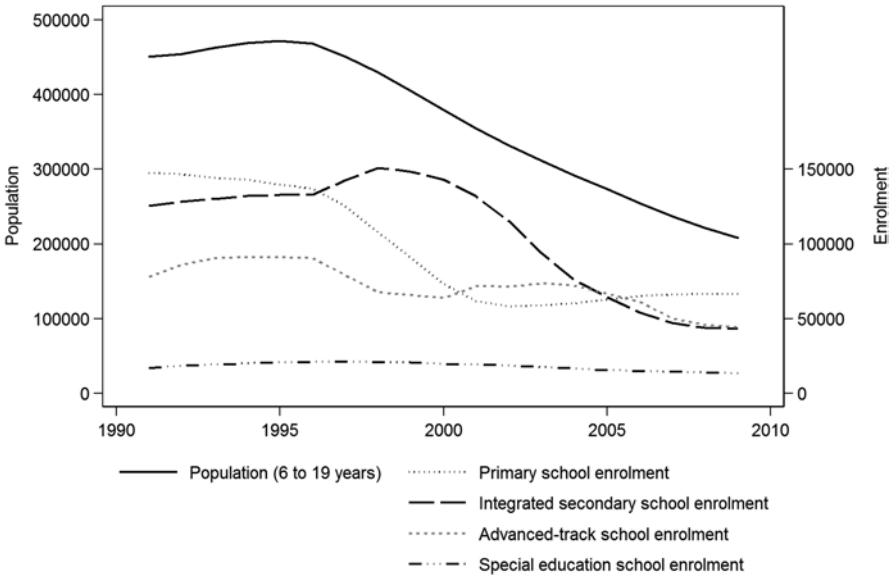

Fig. 8.2 Size of school-age population and enrolment in general education schools in Saxony-Anhalt (1991–2009). (Sources: Statistisches Landesamt Sachsen-Anhalt 1991–2010, 1991–2009)

schools was of a more binding nature for parents in Saxony-Anhalt (Füssel et al. 2010, p. 101). According to the ongoing trend towards greater proportions of enrolled students aspiring toward higher educational credentials, it is likely that enrolment in integrated secondary schools will be more affected by demographic decline than enrolment in advanced-track schools.

Figure 8.2 shows that at the beginning of the period analysed, the number of children aged 6–19 slightly increased to a maximum of 471,000 in 1995. After this peak, their number decreased continuously to 208,000 in 2009, which amounts to a drop in the target group of general education schools by 56 %. The demographic decline does not affect all school types in the same way and at the same time, however. The wavelike development of birth cohorts affects primary and secondary education sequentially. Primary schools, as expected, mostly followed the demographic trend and displayed proportionate changes in enrolments. With the number of enrolments dropping by 61 % from 1991 to 2002, with a maximum of 147,000 and a minimum of 58,000 during this period, the decrease was even slightly stronger than the one observed among the age group in the total population. The integrated secondary schools recorded increasing enrolments until 1998, which then declined continuously from 151,000 to 43,000 in 2009. With a drop in enrolment of 72 %, they lost the largest share among the educational levels and school types considered in this chapter. Enrolment in advanced-track schools was lower as well but by far did not nearly decline as dramatically as in the other afore-mentioned types of schools. The advanced-track schools lost 52 % of their enrolment from an absolute maximum of

91,000 in 1994 to a minimum of 44,000 in 2009. The number of special education enrolments decreased from 21,000 pupils, its maximum in 1997, to 13,000 in 2009, which represents a drop of 38% and hence a fairly stable development by comparison. This relative stability was due to an increasing participation rate in special education, which rose from 4.8% in 1992 to 8.6% in 2008 (Kultusministerium Sachsen-Anhalt 2010, p. 33).

The somewhat discontinuous development of enrolment in secondary schools was the product of political reforms (Kultusministerium Sachsen-Anhalt 2010, p. 28). Firstly, the temporary introduction of a comprehensive orientation stage in integrated secondary schools in 1997 delayed the decision on the track of secondary education a pupil is to pursue from the fourth to the sixth grade. This reform was abolished again in 2003, which benefited total enrolment numbers in advanced-track schools at the expense of integrated secondary schools. Secondly, nine instead of 8 years of schooling in advanced-track schools were introduced in 2001 and abolished again in 2007. The reform of the reform resulted in slightly lower total enrolment numbers in this school type.

The overall negative trend in enrolment numbers has had consequences for the provision of school infrastructure. The total number of primary and secondary schools decreased from 1745 in 1991 to 949 in 2009, hence by −46%, which is only slightly lower than the decline in the targeted age group by 56%. Breaking these figures down by school type leads to the following picture. While integrated secondary schools were closed at an above-average frequency (−70%), advanced-track schools (−44%), primary schools (−35%) and particularly special education schools (−12%) were able to resist the overall trend to some degree. The comparative stability of the number of special education schools is particularly striking.

Primary schools show a disproportionately low demographic responsiveness (Fig. A8.3 in the online appendix). The number of primary schools dropped significantly during the years of rapid demographic decline (1997–2002) and continued to diminish at a lesser rate during the following years of growing population numbers in the respective age group (2002–2006) while the trend stopped thereafter. This relative stability of primary schools can be explained by a guiding idea in education policy to maintain primary schools in as many locations as possible, according to the slogan “short legs, short distances” (*kurze Beine, kurze Wege*), well known among German education planners. At the local level, this principle is further strengthened by the fact that schools—especially in rural areas (Haartsen and van Wissen 2012)—are seen to be part of the essential infrastructure that municipalities must provide in order to be attractive in the regional competition for residents. Contrary to common expectations about negative effects of school closures, however, there is also evidence that such concerns might be unwarranted at least in terms of triggering outmigration (Hyll and Schneider 2012). Recently, 75 public primary schools with fewer than 60 pupils (the official minimum threshold) were counted in Saxony-Anhalt (Staatskanzlei Sachsen-Anhalt 2013), indicating that rural areas have been relatively more resilient to closures than urban ones. However, plans have been announced to close these small primary schools in the years to come.

Special education schools show the lowest demographic responsiveness (Fig. A8.4 in the online appendix). While enrolments followed a wave-like pattern of growth and decline that overcompensated for demographic decline, the number of schools remained almost constant during the period analysed: between 1991 and 2009 it decreased by only 12 %. While special education needs admittedly had generally been growing in Germany during this period (Dietze 2011), the share of these schools in total enrolment was nevertheless particularly high compared to other German states. A possible explanation for the growing enrolment rate in this segment could be that socially selective outmigration had increased the share of pupils in Saxony-Anhalt labelled as 'problematic'. However, this did not lead to any particular increase in the number of pupils falling into the 'softer' special needs categories (such as learning difficulties, language, and emotional and social development) intended to absorb such 'problematic' pupils. Rather, a quantitative shift away from the most numerous category (learning difficulties) to the less-populated categories took place, including to the more 'objective' ones (visual impairment, hearing and physical development). The share of pupils classified as having learning difficulties among all pupils with special needs, for example, was down from 72.5 % in 1992 to 54.3 % in 2008 (our own calculations, based on Kultusministerium Sachsen-Anhalt 2010, p. 33). This is a general trend in Germany (Dietze 2011). An alternative explanation could therefore be that special schools catering to the numerically smaller categories are politically in greater need of 'demand' in order to legitimise their existence, and professional discretion in the diagnostic process is exercised accordingly. Yet a more thorough explanation of the stability of special education demand and supply under conditions of demographic decline remains to be elaborated.

In contrast to these developments, general secondary schools were highly responsive to demographic decline (Fig. A8.5 in the online appendix). This is probably attributable to the fact that school infrastructure undergoes a holistic planning and administration process in which the overall cost of the system is considered. In this context, general secondary schools seem to offset the relative stability of the primary and special education school infrastructure. Among the secondary schools, advanced-track schools were less responsive to demographic decline than integrated secondary schools, which were subject to a disproportionately high number of school closures. On the one hand, the differences in the development of integrated secondary and advanced-track schools reflect the general trend towards higher school-leaving certificates in Germany and other parts of the world. On the other hand, educational reforms and numerous exceptions from the state school law stating that an advanced-track school should have at least three classes in each grade (Kultusministerium Sachsen-Anhalt 2005) politically favoured the advanced-track schools over the integrated secondary schools.

As an upshot of this, it can be stated that schools have slightly more time to adapt to changes in fertility rates than the institutions of early childhood education and care do. Nevertheless, compulsory schooling makes general education schools highly vulnerable to demographic decline. Among the general schools, secondary schools are more affected by school closures in the face of demographic decline than primary and special education schools. Among the secondary schools, advanced-track schools are less affected by demographic decline because of educational expansion.

Last but not least, these differences among school types reflect political decisions at the local and the state level in the process of adapting to demographic change. These decisions seem to take territorial cohesion into account as well. It is probably not a coincidence that the share of general schools located outside of the three urban centres in Saxony-Anhalt did not change considerably between 1991 and 2009: it rose minimally from 81.3 to 81.6 %. However, closures of public schools also open up space for private providers. Their share in school infrastructure rose from practically zero to 8.32 % between 1991 and 2009. In 2009, their share was slightly larger in cities than in rural areas.

8.3.3 Vocational Schools

Demographic change affects vocational education schools similar to general education schools because of compulsory schooling in upper secondary education. Adolescents who leave a general education school after the lower secondary grades are still obliged to attend some programme leading to an officially recognised vocational education until the age of 18. Trainees in the dual vocational training system are subject to compulsory schooling until they complete VET even if they are older than 18 (Hippach-Schneider et al. 2012, p. 42).

The German system of vocational education is rather complicated (Thelen and Busemeyer 2012). The internationally well-known and most common type in Germany is the so-called dual system (*Duales System*). It is co-financed and organised by firms and the state. In this programme, instruction takes place in part-time vocational schools (*Teilzeit Berufsschule*) "cater[ing] to apprentices who, in addition to the practical training gained within their firms, receive both theoretical instruction in their trade and also some additional general education […]. Instruction may take place regularly for one or two days per week or, alternatively, for blocks of several weeks" (Lehmann 1994, p. 2475). The final certificate can be used to enter more ambitious programmes in the education system.

Another type of programme is organised at full-time vocational schools (*Berufsfachschule*), which are mostly state-financed but sometimes also privately (especially in the health sector). Full-time vocational schools offer professional training without apprenticeship schemes (e.g., for early childhood education and care) or in fields with too few openings for apprentices. Similar to the dual system, the final certificate is an officially recognised professional qualification and also qualifies for admission to more ambitious education programmes.

An important third type of programme comprises different variants of the so-called transition system (*Übergangssystem*).[8] These programmes are designed to help young people disadvantaged in the labour market to cross the first threshold from general education to vocational training. Programmes for such transition management are sometimes offered by regular public vocational schools and sometimes by private organisations receiving public funding.

[8] Further types of vocational schools do exist, but they comprise only a small number of students (Hippach-Schneider et al. 2012). For the sake of clarity, they are neglected here.

A look at vocational students across all school types reveals that their average age is above the typical age of 18, when compulsory schooling is theoretically supposed to end. In Saxony, a neighbouring state of Saxony-Anhalt, the average age was, for example, 19.7 years in 2006 (Statistisches Landesamt Sachsen 2006). Eighty-five per cent of the students there were between 15 and 21 years old. This age group is therefore defined as the typical one for vocational schools in the present chapter. The very small birth cohorts of 1993 and 1994 in East Germany thus reached vocational education, on average, only at the end of the period under study in 2008 and 2009, and will leave it in 2014 and 2015.

Based on Fig. 8.3, we can describe the development of the population aged 15–21 in four stages. After stagnation during the first 2 years of the period considered, their number grew during the second stage from 215,000 in 1993 to 252,000 in 1999. Subsequently, the figure decreased, initially slowly and from 2005 on more sharply, to 151,000 in 2009. The decrease between 1999 and 2009 equals −40 %. In contrast, the number of vocational students declined to a far lesser degree. The number of students enrolled in vocational schools at the end of the period analysed was almost the same as it was at the beginning of the 1990s. From less than 64,000 in 1992, the curve rises to a maximum of 89,000 in 1999 before it drops back down, in a slightly discontinuous pattern, to 63,000 in 2009, a reduction of 29 %. How can we explain the overall stability of vocational student numbers? The reason can be found in the development of enrolments in full-time vocational schools. Enrolment rose rapidly from only 3000 in 1992 to almost 15,000 in 1999 and after a few years of discontinuity to a maximum of 17,000 in 2005. Then student numbers dropped to a slightly lower level again.

The relative strength of the full-time vocational schools in Saxony-Anhalt is part of the larger picture in East Germany where this branch of vocational education is more common than in West Germany (Bundesministerium für Bildung und Forschung 2011, p. 11). In the wake of deindustrialisation and administrative downsizing in East Germany (Hannemann 2004), a lack of regular apprenticeship openings within the dual system led to bottlenecks at the first threshold from general education to vocational training and consequently to a postponement of vocational education within the life course of individuals (Sackmann 2000). The age of vocational students rose during the transformation process accordingly. In order to compensate for the insufficient number of vacancies in the dual VET system due to the weak economy in East Germany, state and federal authorities have agreed to expand full-time vocational schools targeting disadvantaged adolescents (Grünert 2010). A further explanation for the relative stable development of vocational school enrolment from 1992 to 2009 compared to the population decline in that age group is that student numbers were fairly low in the early years of the East German transformation. In 1989 the German Democratic Republic had still recorded 136,000 new apprenticeship contracts, whereas by 1991 their number had fallen to 82,000 (Grünert 2010, p. 240).

The development in enrolment did not leave the supply structures of vocational schools in Saxony-Anhalt unaffected. Their number dropped from 72 to 66 between 1992 and 2009. However, this apparent stability masks that the number of public vocational schools offering a high diversity of vocational programmes dwindled

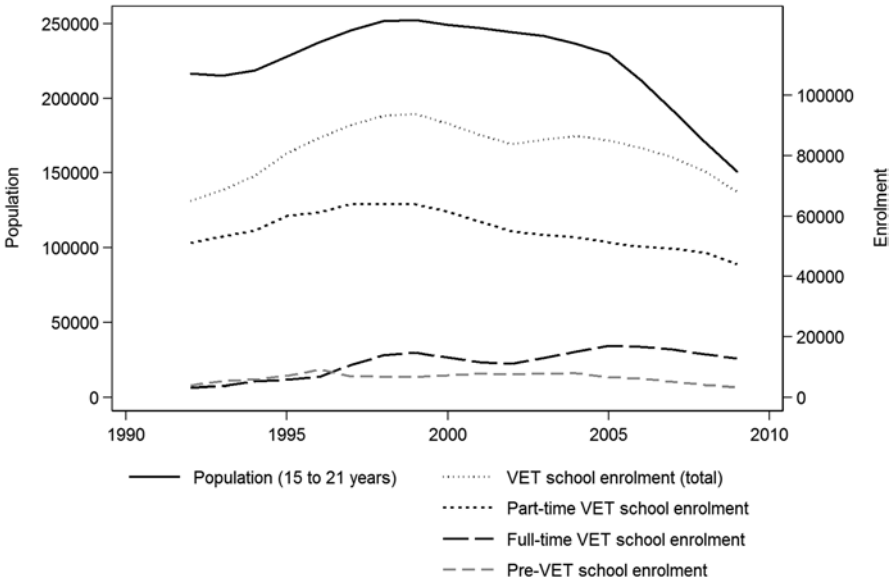

Fig. 8.3 Population size in the relevant age group and enrolment in VET schools in Saxony-Anhalt (1992–2009). (Sources: Statistisches Landesamt Sachsen-Anhalt 1992–2009)

from 68 to 31. The fact that there was an increase in private vocational schools from 4 to 35 offset this loss only on the surface since they offer only a very restricted spectrum of vocational programmes. Hence, this shift from public to private service providers to a certain degree reflects a commodification process of vocational education. Furthermore, the spatial distribution of vocational schools also decreased significantly during this period. They became increasingly concentrated in the three largest cities in Saxony-Anhalt. Beyond the privatisation of vocational education facilities, demographic decline also catalysed further economisation strategies. During the periods of growth in enrolment, full-time vocational schools and pre-vocational schools expanded to a lesser degree than student numbers (Fig. A8.6 in the online appendix), and part-time vocational schools were partially closed down in spite of temporarily rising enrolment numbers.

To conclude this section, we can hold that, theoretically, vocational education is affected by demographic decline due to compulsory VET schooling after students leave lower secondary general education. Yet we see few signs of this constitutive vulnerability during the period considered. The process of economic and political transformation decouples enrolment in the vocational school system to a much greater extent from demographic trends than in the case of general education. A compensatory effect originates from the postponement of vocational education to a later point in the life course due to the relative scarcity of apprenticeship openings within the dual system after reunification. The targeted age group for vocational education thus broadens. In this context, the newly established full-time vocational schools in East Germany assume the traditional compensatory role of the transition system

in West Germany. The structural difference in the fulfilment of this compensatory function, however, is significant. Full-time vocational schools offer officially recognised certificates of vocational education, whereas the transition system is more or less an institutional 'waiting room'. In spite of the factors decoupling enrolment in vocational education from demographic trends, considerable concentration processes occurred on the supply side. They are probably attributable to the fact that the highly differentiated curricula of vocational schools depend more on large organisational units in order to reach certain thresholds of minimum class sizes than general education schools do. Hence, in addition to a broadening of the targeted age group, vocational education schools partially offset demographic decline through an enlargement of their catchment areas. The commodification of vocational education increased slightly through the structural shift from public to private vocational schools.

8.3.4 Higher Education

Higher education differs significantly from the other educational levels considered so far in this chapter because of the relatively low participation rates at the beginning of the period analysed and greater internal differentiation (between and within organisations) than any of the other levels of the education system. These differences allow for a substantial decoupling of higher education from demographic trends. In contrast to general and vocational schools, there is no obligation to participate in higher education. Furthermore, international comparisons show that Germany still has quite a low participation rate in higher education (OECD 2011, p. 308). Due to the very strong system of dual vocational training, this is a traditional feature of the German regime of skill formation (Nikolai and Ebner 2012). Below a certain saturation point of universal access, the participation of the regional population entitled and inclined to enter higher education should be decisive for the absolute number of enrolled students (Mayer 2008). We also need to take student mobility as a potential intervening factor into account since higher education is highly differentiated and the provision of education at this level is fairly centralised compared to lower levels of the education system. The typical age group for higher education from 19 to 29 has reached a stage in life when it is (legally) possible to live on one's own. This opens up opportunities of spatial mobility to realise one's personal educational aspirations. Hence, the constituency of tertiary education institutions is theoretically less limited to their immediate regional context than that of kindergartens and schools, for example. A central prerequisite on the supply side to enlarge the catchment area of higher education organisations is attractive educational programmes and substantial academic quality.

Figure 8.4 reveals that the population aged 19–29 in Saxony-Anhalt declined continuously from 375,000 to 293,000 between 1992 and 2001; subsequently it developed more discontinuously, but the changes were on a smaller scale. The population decline in the relevant age group for higher education was 12 % during the 1990s. By contrast, the number of students rose continuously from 22,000 to 52,000 between 1992 and 2004—an increase of 136 %—and then stagnated at

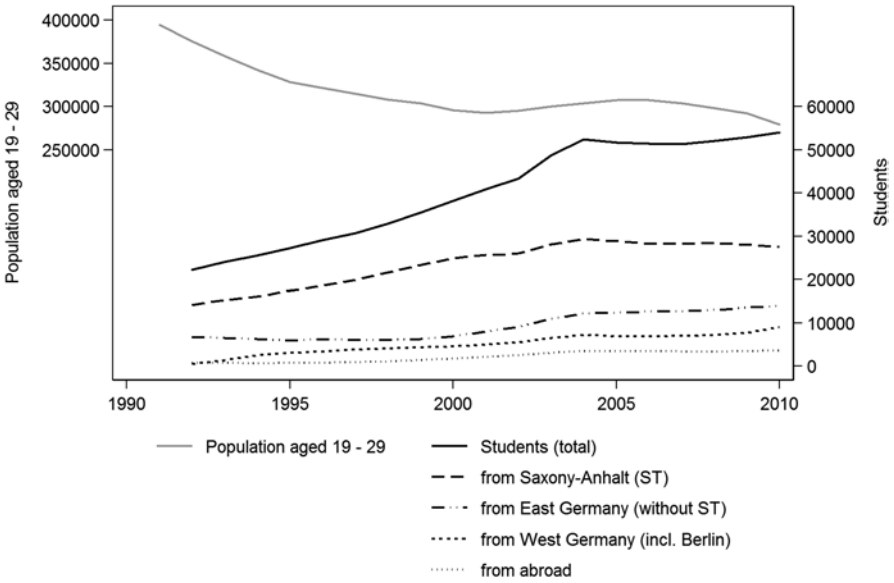

Fig. 8.4 Population aged 19–29 and enrolment in higher education in Saxony-Anhalt (1991/1992–2010). (Source: Statistisches Landesamt Sachsen-Anhalt 1991–2010; Statistisches Bundesamt 1993–2011)

this level in the following years. While universities and art schools doubled their enrolment during the period considered here, applied universities quadrupled their student numbers. The faster growth of (the less expensive) applied universities is a universal phenomenon in Germany (Autorengruppe Bildungsberichterstattung 2010, p. 121).

In the case of higher education, it becomes clear that rising participation rates contribute to a decoupling of enrolment from demographic trends. This decoupling admittedly depends on initially low participation rates. The overall expansion of enrolment in higher education in Saxony-Anhalt is partly attributable to the general process of expanding higher education observed worldwide (Schofer and Meyer 2005). The spread of ideas about the benefits of higher education leads policymakers to invest in human capital. However, the especially steep rise in enrolment in Saxony-Anhalt is also rooted in the transformation process after German reunification. Socialist states started to limit access to higher education from the late 1970s onward, thereby suppressing individual aspirations to pursue tertiary education. During the transformation process, there was therefore a significant catch-up in demand for access to higher education (Baker et al. 2007; Reisz and Stock 2007), partly offsetting the effects of the prior institutional closure—at least with regard to the younger age groups.

The relative stagnation of enrolment between 2005 and 2007 was probably due to the introduction of consecutive study programmes (bachelor's and master's degree) in accordance with the Bologna process (on the latter, see Winter 2011). Enrolment numbers stagnated during the first years of reform because the new study

programmes shortened the average time of study. Initially they comprised only the relatively short bachelor programmes, and even later not all bachelor students proceeded to the master's level. Furthermore, with the introduction of the new programme structure, higher education institutions received more autonomy in calculating teaching capacities and determining enrolment numbers. Several political aims were to be met at the same time. The teacher/student ratio was to be improved while financial resources stagnated simultaneously—partly in anticipation of demographic decline (Witte and Stuckrad 2007, pp. 2–3). Consequently, higher education institutions limited their enrolment numbers. After 2007, the overall number of students slightly increased again. In order to improve access to higher education in East Germany and to relieve West German universities from abundant demand, authorities at the federal level and the 16 German states agreed on an initiative to promote national student mobility. In the so-called Alliance for Higher Education (*Hochschulpakt 2020*), which became effective in 2007, the East German states committed themselves to maintaining study capacities at the level of 2005. They received subsidies for each additional higher education entrant in exchange. The *Hochschulpakt 2020* was accompanied by a marketing campaign for East German higher education institutions that attempted to motivate eligible West German students to head east. This campaign for educational migration has been remarkably successful (Gemeinsame Wissenschaftskonferenz 2012), building on the sound academic quality of higher education in East Germany. In Fig. 8.4, this success is reflected in the growing number of students originating from outside Saxony-Anhalt.

The increase in enrolment was not accompanied by similar growth in staff between 1992 and 2009 (Fig. A8.7 in the online appendix). Rather, the number of personnel stagnated at around 16,000 employees until 2007 and only later rose to over 17,000 (+10%). However, this relatively low increase masks the fact that the administrative staff of higher education institutions decreased significantly during the period considered. Scientific personnel increased from 5500 persons employed in 1992 to 8300 in 2009 (+50%). By contrast, administrative personnel were reduced by 10% during this time. The observed growth in academic staff was partially driven by temporary teaching contracts (*Lehraufträge*). Furthermore, the number of higher education institutions in Saxony-Anhalt was reduced from 16 to 12 and the number of local branches of these institutions from 21 to 17 (Bartl 2012a). In other words, the expansion of higher education places was partly enabled through an economisation of the regional higher education system in terms of staff and infrastructure.

This section allows us to draw some conclusions. Higher education is by far the level least affected by demographic change in the regional education system. This decoupling is due to the general trend of rising educational aspirations, which brings new segments of the regional population to higher education. Furthermore, higher education can count on spatial mobility much more than the educational institutions with younger participants. It is even considered a sign of high academic quality in university rankings if a higher education institution has a high ratio of students from outside the region or abroad. In the data analysed, there is no evidence for any expansion of the range of typical age groups (a potential compensation strategy to which some authors point, e.g., Vincent-Lancrin 2008).

8.3.5 Comparison Across the Levels of the Education System

The last empirical section of this paper takes its comparative approach across different levels of the education system a step further by applying bivariate regression analysis. As the analysis is based on aggregate time series with only a limited number of observations, multivariate regression models are not viable. The dependent variables (Table 8.1: enrolment, Table 8.2: number of education facilities and staff in higher education) are regressed on changing demographic cohort sizes. Since these variables enter the regression models after logarithmic transformation, the coefficients obtained can be read as elasticities: they express the percentage by which the dependent variable (supply) is predicted to change if the independent variable (size of the targeted age group) changes by 1 %. Hence, the relative demographic responsiveness of supply structures can be compared numerically across different subsectors of the education system.

Table 8.1 contains the results obtained for the demographic elasticity of demand for education. The first model for elementary education and childcare reveals that if the population under 6 years old decreases by 1 %, demand for child care is predicted to decrease by 0.11 %. However, this relationship is statistically not significant, and the coefficient of determination shows that the model has no predictive power ($R^2 = 0.01$). This result is due to the fact that the effect of decreasing enrolment of children less than 6 years old was offset by older children enrolling in after-school care—a service formerly provided by primary schools.

The second model for primary schools shows a much stronger positive demographic elasticity: primary school enrolment changes by 1.02 % if the population aged 6–10 changes by 1 %. Because of compulsory schooling and little internal differentiation at this educational level, the coefficient indicates a virtually completely deterministic relationship.

Table 8.1 Demographic elasticity of demand for education services (bivariate regressions). (Source: Our own calculations)

Population aged (years)	Children in childcare	Primary school enrolment	Integrated secondary school enrolment	Advanced-track school enrolment	Special education school enrolment	Vocational school enrolment	Higher education enrolment
0–6	0.11						
6–10		1.02***					
10–16			1.18***				
10–19				0.65***			
6–19					0.49***		
15–21						0.55***	
19–29							− 3.50***
N	8	19	19	19	19	18	19
R^2	0.01	0.98	0.96	0.73	0.82	0.50	0.71

***$p < 0.001$, dependent and independent variables are logarithmised

Table 8.2 Demographic elasticity of supply of education facilities (bivariate regressions). (Source: Our own calculations)

Population aged (years)	Childcare centres	Primary schools	Integrated secondary schools	Advanced-track schools	Special education schools	Vocational schools	Staff in higher education
0–6	0.64***						
6–10		0.41***					
10–15			1.10***				
10–19				0.68***			
6–19					0.13***		
15–21						0.24***	
19–29							−0.56**
N	8	19	19	19	19	18	19
R^2	0.89	0.82	0.95	0.92	0.87	0.28	0.66

**$p<0.01$; ***$p<0.001$, dependent and independent variables are logarithmised

Similarly powerful in terms of its predictive potential is the third model, for lower secondary school enrolment. The regression coefficient even shows a highly elastic relationship: if the age group from 10 to 16 years declines by 1 %, enrolment decreases by 1.18 %. The disproportionally high decrease in enrolment at lower secondary schools is an expression of the ongoing educational expansion. The other side of the coin is enrolment in advanced-track schools that changes only by 0.68 % if the respective age group of the 10-to-19-year-olds changes by 1 %.

In the case of enrolment in special education, we observe an even less elastic (b = 0.49) response to demographic change. This relative stability is probably attributable to a strong culture of segregation in special education in (East) Germany (Richardson and Powell 2011). Teachers of primary and special education schools communicate with each other in the process of attesting special education needs. Assumed problems with 'difficult' pupils, on the one hand, and vacant seats in such schools, on the other, could help explain the rising participation rates in special education in Saxony-Anhalt during the period analysed. However, a detailed explanation of this phenomenon is beyond the scope of this chapter.

The similarly low demographic elasticity of total vocational enrolment (b = 0.55) can be explained by the fact that the smaller tiers of the vocational education system (full-time vocational schools and pre-vocational schools) have significantly expanded their enrolment numbers (Fig. A8.6 in the online appendix). In order to compensate for the lack of opportunities in the East German dual-system apprenticeship market, policymakers have sought to provide alternative opportunities by establishing a system of full-time vocational schools (Grünert 2010).

The last model, for enrolment in higher education, expresses a negative relationship between demographic decline and rising student numbers. Yet this relationship is probably not of a causal but of a spurious nature. Student numbers probably do not rise because of demographic decline but in spite of shrinking cohort sizes. Here again, the process of educational expansion, especially steep during the 1990s (Reisz and Stock 2007), provides a good explanation while intra- and international student mobility has also increasingly gained importance.

The regression coefficients in Table 8.2 bear some striking results. The first model for the responsiveness of childcare centres surprisingly reveals an elasticity of 0.64, even though total enrolment in this field was completely decoupled from demographic decline. Expressed differently, a decline in the size of the population younger than 6 years old by 1% is predicted to result in a decrease in the number of childcare centres by 0.64%—despite the compensatory effect of increasing enrolment in after-school care. Apparently, the concentration process in childcare provision is strategic so as to increase organisational flexibility and economies of scale: formerly separated units were merged and reorganised in order to form multifunctional units providing childcare and education no longer for narrow but now for broader age groups. At this level, the increasingly high level of commodification (in the sense of not-for-profit providers) could have contributed to this remarkable demographic elasticity of supply.

The next four models depict the demographic responsiveness of general schools. Compared to the high responsiveness of enrolment in primary schools, the education infrastructure in this field of education responds far less elastically to demographic decline. The number of primary schools decreases only by 0.41% if the population aged 6–10 years drops by 1%. This relatively low responsiveness can be attributed to the guiding idea in education planning that 'short legs' should be provided with 'short distances' in the education system. Integrated secondary schools show a disproportionately high demographic elasticity: a 1% drop in the population aged 10–15 years old comes with a 1.1% decline in the number of facilities in this field. This school type obviously is a victim of educational expansion within the framework of a hierarchically differentiated secondary school system: advanced-track schools leading to higher valued credentials display an elasticity of only 0.68%. Finally, special education schools are the demographically least elastic school type among general education schools. The latter seems to be due to inherited professional standards of how to deal with special education needs. Viewing general education schools as a subsystem of the regional education system, one could argue that the highly elastic general school types offset part of the fixed costs that the less elastic parts of the subsystem generate.

With an elasticity of 0.24%, the total number of vocational schools does not seem to respond very strongly to demographic decline. But considering only the overall number of vocational schools conceals a remarkable process of privatisation: horizontally differentiated public schools were closed while narrowly specialised private schools opened. Furthermore, there were divergent developments in different tiers of the vocational school system. The descriptive analyses showed that part-time vocational schools (and pre-vocational schools) were affected more by the demographic shrinking process than full-time vocational schools. The guiding idea behind public subsidies for full-time vocational schools was to offset the impact of the deindustrialisation process on vocational training opportunities in East Germany after reunification. However, improved labour market opportunities for young people in East Germany and the termination of public subsidies have triggered reductions in this segment of vocational education as well (Grünert et al. 2006; Bundesministerium für Bildung und Forschung 2011, p. 21).

Last but not least, the final model, displayed in Table 8.2, suggests that staff numbers in higher education would respond negatively to demographic decline. But this is probably a spurious relationship. There is no obvious reason to believe that declining cohort sizes might contribute to rising staff numbers in higher education. More profound analyses at the micro level of single institutions for higher education show that this relationship is statistically not significant (Bartl 2012a). In reality, there is a positive relationship with enrolment and a negative relationship with economic development, supporting the oft-mentioned hypothesis of a 'third mission' of higher education institutions in a regional context. As they provide public employment, higher education institutions in Saxony-Anhalt seem to be part of policies aimed at mitigating regional economic hardships. These policies attempt to meet the principle of equivalent living conditions in all parts of Germany codified in German Basic Law. In spite of this 'third mission', there were significant reductions in administrative staff during the period analysed, and current discussions in Saxony-Anhalt nurture expectations of further cutbacks to come—despite rising enrolment in higher education (Ziegele and Berthold 2013). In this respect, Saxony-Anhalt's weak economy, partially a consequence of the transformation process (Sackmann 2010), and the anticipated termination of transformation-related public transfers in 2019 seem to exert financial pressure on the higher education system. At this point, politicians attempt to use demography as a legitimising frame for unpopular cutbacks (Ziegele and Berthold 2013).

Overall, the seven educational fields compared in this section display an average demographic responsiveness of 0.38. Closest to this value is the regression coefficient of primary schools. On the one hand, within the framework of hierarchical differentiation, integrated secondary schools are weakened by political decisions and individual preferences for higher levels of education. This makes them overly responsive to demographic decline. Advanced-track schools and childcare centres respond to an above-average extent to demographic decline but still not proportionally. While the concentration of childcare centres is probably driven by strategic choices on the part of municipal and private providers, closure of advanced-track schools would have been even higher if state school law were implemented to the letter. On the other hand, higher education institutions are the ones most independent of demographic decline. However, there have been economisation strategies at this level as well among different categories of personnel. Special education schools also prove to be relatively immune to demographic decline, especially when compared to the other general school types. This is partially due to growing participation rates in special education and the redirection of enrolment from a relatively large number of schools catering to learning difficulties to schools targeting less frequent categories of special needs education. Finally, the relative independence of vocational schools indicated in the regression coefficient is rather deceptive as it masks a process of concentration among public vocational schools that is only numerically compensated by specialised private ones.

8.4 Equal Access to Education and Economisation of Infrastructure

The education infrastructure in Saxony-Anhalt was substantially restructured during the period of analysis. Results show that the extent of demographic responsiveness of the regional education system in Saxony-Anhalt varies in and across educational levels. This variance points not only to constitutive institutional differences between educational levels (*responsiveness-of-demand hypothesis*) but also to political discretion in coping with demographic changes. Hence, the observed variance in education infrastructure in response to demographic decline dampens simplistic expectations of declining expenditure in times of declining cohort sizes. At most levels, adaptation of supply was less flexible than the volatility of demographic decline and changes in enrolment. To reiterate the second assumption on the possible liberation of resources through demographic change (*economisation-of-supply hypothesis*), it must be said that this is only partly the case. More detailed data (e.g., including data on the size distribution of education establishments) probably would have revealed even more variance in the economisation of supply. Usually decisions about the closure (or not) of schools and childcare centres are made based on certain administrative thresholds. The variability in the demographic responsiveness of supply across educational levels points to the normative nature of political decision making on education infrastructure: cost reductions have to be weighed against the pretension of welfare states to provide (territorially) equal access to education. All the more striking is that there are economisation processes that cannot be attributed directly to demographic decline, such as in those cases with growing enrolment numbers (early childhood and higher education). Theoretically, it is possible that demographic decline exerts an indirect financial pressure on public budgets for education services. Financial scarcity in East Germany, however, results not from demographic decline in the first place but from the monetary union with West Germany and deindustrialisation during the transformation process (Sackmann 2010).

Hence, the intervening variables proposed above based on theoretical considerations (inclusiveness, internal differentiation and commodification) have to be reconsidered in the light of results from other studies. For inclusiveness, this means the following. While in Saxony-Anhalt the number of childcare centres was vulnerable to demographic decline because of the high participation rate, participation in childcare was significantly lower in Poland and West Germany (Bartl 2011b). Participation rates can be interpreted as informal expressions of normative expectations about standards of welfare services. Hence, despite low participation rates, the familialistic welfare regime in Poland, emphasising the role of the family in childcare, made it normatively easier for municipalities to close existing childcare centres during the first phase of transformation, especially in rural areas. It can be assumed that retrenchment strategies of this type contributed to the relatively low level of indebtedness of shrinking municipalities in Poland (Sackmann 2010; Rademacher 2007). Later, in the post-transformation period, low numbers of children were off-

set by the introduction of a compulsory year of pre-schooling, and the system of general schools was even expanded (Kopycka 2013). In West Germany, attempts at the federal state level to modernise the traditionally conservative German welfare regime have recently led to extending childcare to children younger than 3, thus offsetting the effect of lower numbers of children aged 3–6 years in the general population (Bartl 2011b). Hence, low inclusiveness makes it less probable that fertility decline results in overcapacities only if normative aspirations rise at the same time—thus offsetting decline through rising participation rates. This is why in shrinking West German rural areas the level of childcare infrastructure is perceived as satisfactory while their East German counterparts interpret a similar situation as a deterioration in service provision (Steinführer et al. 2012). In higher education, rising participation rates can be interpreted as coming closer to the ideal of universal higher education. An unintended consequence of this politically desirable outcome will be that higher education will become more responsive to demographic change. Demographic decline is already a serious challenge for (private) higher education institutions in countries such as Japan or South Korea (Yonezawa & Kim 2008). There, internationalisation is discussed as the primary strategy for coping with decline. If we consider that such a strategy theoretically requires quite a high level of commodification (Sackmann 2007), normative questions about tuition fees could become more prominent.

Internal (hierarchical and horizontal) differentiation loosens the connection between demographic trends and educational supply. The present chapter shows that integrated secondary schools were more affected by demographic decline than advanced-track schools. This uneven demographic responsiveness points to the hierarchical differentiation of secondary schools in Germany. Similarly, demographic decline has led the structurally more fragmented general school system in West Germany to come under pressure toward dedifferentiation from the lower end of this hierarchy (Bartl 2012b). In the 1980s, when the 1970s decline in fertility in West Germany reached the education system, this demographic pressure on enrolment was temporarily relieved through immigration, on the one hand, and through relaxing administrative thresholds for minimum school size, on the other (Trotha 1981). Today, integrative types of schools are increasingly emerging as a solution to declining enrolment (Bartl 2012b). As far as horizontal differentiation is concerned, low differentiation such as in primary schools allows for fairly decentralised service provision. However, this low differentiation usually means fairly small infrastructure units, which makes them prone to closure (for accordant expectations about the future in the Netherlands, see Haartsen and van Wissen 2012). Whereas special education schools have a similar number of pupils to primary schools, they have proved to be highly resilient in the face of demographic decline. Their relatively stable number points to an increased participation rate, which is especially high in Saxony-Anhalt compared to other German states. Hence, both school types raise normative questions in times of demographic decline. Shall these small schools remain open? In a comparison of the 16 German states, only one (Thuringia) had higher expenditures per pupil than Saxony-Anhalt (Statistisches Bundesamt 2010, p. 47). Recently, the government of Saxony-Anhalt announced the anticipated closure of

75 small primary schools that do not currently reach the administrative minimum threshold of pupils for this school type (Staatskanzlei Sachsen-Anhalt 2013). And yet, it could be argued that the fairly decentralised structure of primary schools may have contributed to the good results that pupils from Saxony-Anhalt achieved in a comparative study across the German states (Stanat et al. 2012). In contrast to the apparently good results of primary schools, the relatively high expense of instructing pupils with special needs in separate schools (Preuss-Lausitz 2009) does not seem to pay off socially. In Saxony-Anhalt, 10.7% of total enrolment dropped out of school without a degree in 2009. Around three-quarters of those dropouts originated from special education schools. Only the state of Mecklenburg-Western Pomerania had a higher dropout rate in 2009 (12.4%)—and a similar participation rate in special education schools (our own calculations based on KMK, (n.d.), pp. 332–333). In light of current discussions about a more inclusive and more efficient school system, the relative stability of the fairly expensive segregated schooling of children and youths with special needs in the face of demographic decline is an ambivalent success story. In larger organisational units, declining cohort sizes exert pressure towards internal horizontal dedifferentiation. Recently, for example, vocational schools in Saxony-Anhalt began to experiment with mixed classes for apprentices of different vocations (Laag 2010).

The level of commodification in the East German educational landscape was lower in the early 1990s than it is today. The share of private not-for-profit providers of educational infrastructure has increased remarkably in early childhood, vocational and general education. While quite a high involvement of private actors in early childhood and vocational education is common in West Germany, the same cannot be said of general education schools. Despite privatisation being still at a relatively low level in Germany, it is noteworthy that increases in private (primary) schools have been preceded by closures of public schools due to demographic decline, as other studies show (Kühne and Kann 2012). Beyond that, demographic decline seems to reinforce traditional means of rationalisation in the public sector, such as calculation in kind (Bartl 2011a), retrenchment measures and flexible employment contracts (especially in higher education). This corresponds to a reform pattern of the public sector, identified mainly in continental Europe, in which the state remains a key actor in society, normatively and empirically, and marketisation plays a rather limited role (Pollitt and Bouckaert 2011).

Demographic decline calls for an economisation of education infrastructure; yet migration (for education reasons) might alleviate part of this pressure. The guiding ideas of education policy, whether rooted in political or in professional reasoning, usually work against an economisation of education infrastructure. Furthermore, the demographic responsiveness of supply structures is less pronounced at educational levels that display a greater degree of hierarchical or horizontal differentiation (e.g., secondary schools) compared to more inclusive sectors of the education system (e.g., primary schools). Another intervening effect seems to be related to the size of educational establishments: larger units have more potential for flexible responses to declining demand; however, this variable was not investigated systematically enough in the present paper. On the other hand, highly inclusive and

highly commodified levels of education are more responsive to demographic decline than those levels with low participation and completely decommodified public supply structures. However, independent of demographic change and educational governance structures, pressure to economise the regional education system might originate in poor economic conditions in a given region. The latter becomes especially obvious when the current discussion in Saxony-Anhalt about cutbacks in higher education is considered. Here demography is used as a legitimising frame for unpopular (and maybe unwise, see Ziegele and Berthold 2013) political decisions. Hence, the demographic responsiveness of the education system is codetermined by other variables, above all by educational governance structures and the economic conditions in the region. Some of these variables hamper and others enhance economisation tendencies in education due to demographic decline.

Electronic Supplementary Material

The online version of this chapter (doi:10.1007/978-3-319-10301-3_8) contains supplementary material, which is available to authorized users. Caption of the data object (Excelfiles.zip 711 kb)

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Chapter 9
Personnel Strategies of Public Sector Organisations in Response to a Declining Service Population. A Model and Empirical Evidence

Abstract Transaction cost theory postulates a causal relationship between the organisational structure of firms and human resources management strategies and the characteristics of the production process and type of human capital. In contrast to this thesis, this chapter shows how deeply rooted normative beliefs about the shape of employment systems and the rules governing personnel policy can alter this causal relationship. We analyse strategies of personnel reduction in Polish public schools, which face, as we argue, conflicting premises about human resources management. Since the late 1990s, Polish public schools have been operating under conditions characterised by high environmental uncertainty due to free school choice, low functional flexibility of employed staff as a result of strict qualificatory regulations, a slack labour market because of high unemployment rates and a labour market of an occupational type, which, taken together, facilitate external labour market structures. At the same time we find a strong presence of the normative ideal of a "good employer" and an emphasis on stable employment relations and long tenure. The conflict is resolved by the use of innovative micro-level strategies that seek to maintain job stability despite adverse initial conditions. The delineated strategies include increasing the functional flexibility of staff by further education as well as establishing supra-organisational labour markets across all schools at the municipal level.

9.1 Introduction

In this chapter, we investigate the reactions of public sector organisations to demographic changes in terms of their personnel policy. In what ways do demographic developments put public-service organisations under strain or necessitate change? To the extent that demographic changes result in declining service populations in some parts of the public sector—for example, in the case of schooling—we believe that such changes are likely to put these service providers under substantial pressure to reduce staff. This pressure emerges from a kind of, let us call it, 'proportionality logic'. In the face of such pressure from changes in the organisational environment that become manifest at the organisational level in the form of a lower demand for

Author: Katarzyna Kopycka

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services, it is interesting to study how public sector organisations respond in terms of adjustments at the level of personnel. We are concerned with personnel matters because they seem to be a crucial element of any organisational change for at least three reasons. Firstly, human labour is (still) a crucial resource in the production process. Goal realisation of any firm will depend to a great extent on how well it manages its personnel (Lutz 1987). Secondly, personnel is a major cost factor in service-sector organisations. Personnel costs account for a large share of overall public spending. In German federal states, for example, they comprise 38 % of total public expenditure (Dietz 2004). Last but not least, personnel matters constitute a very sensitive issue as they involve real human beings, their placement in the social structure (Baron and Bielby 1980) and the conditions for the functioning of their reproductive sphere, i.e., the family. Personnel policy therefore seems to be an important condition for successful organisational adjustment to environmental change.

Before we begin our investigation, an important caveat is due on the nature of the connection between the size of the service population and the scope of demand for public services. We would consider this relationship as rather loose (in the previous chapter we have dealt with this issue in detail from an intitutional-structural perspective). In the private sector, organisational decline—the major driving force of which is a loss in market share (Datta et al. 2010)—more often than not simply results in personnel cutbacks. In the case of public sector organisations, however, pressures to reduce their workforce are mostly decoupled from organisational performance and subsequent demand for organisational services since these organisations do not operate in a market. Instead, budgetary restrictions resulting from fiscal stress play a major role. Indeed we find much evidence that pressures to downsize in the field of public education are not a simple function of falling demand for schooling in times of low birth rates. Pressures to reduce personnel in education are mostly of a fiscal nature and may have little to do with factual demographic changes. A special issue of *Educational Research* titled "Teacher Education in the Global Financial Crisis (GFC)—Where Has the Shoe Pinched?" (Stephenson and Ling 2012) is devoted precisely to this relationship and analyses the impact of the economic crisis in 2008 on teacher employment. In England, as a consequence of the recession, the number of open teacher positions has fallen significantly in the face of budgetary uncertainties at the school level (Howson and McNamara 2005). Austerity measures in Scotland include a reduction in the number of teachers (which has resulted in high levels of unemployment among newly trained teachers), abandonment of plans to lower class sizes as well as cutbacks in funds available for substitute teachers (Menter and Hulme 2012; Kidner 2011). Similar impacts on teacher employment have been reported for the crisis of the late 1970s (Ginsburg et al. 1988; Murnane 1981).

Taking a demand perspective on employment levels in public schooling, we clearly see that declining enrolments do not automatically result in pressures to reduce personnel. Much depends on educational policy. There is a widespread conviction that there is a necessity to invest more in education as human capital is seen as key to economic prosperity (Gurría 2009). Indeed, in the period 1995–2006, we saw a major rise (by 40 %) in mean educational spending in the OECD countries

while student numbers stagnated during the same period (OECD 2009). Many governments see demographic changes and declining student numbers as an occasion to improve educational standards by lowering class sizes, student–teacher ratios and time spent in class (Menter and Hulme 2012; Falch and Rattsø 1996; Andersson and Waldenström 2007). A consequence of such expansionary strategies is that the demand for teachers remains high in spite of falling enrolments. In times of economic pressure, by contrast, demographic changes may be seen as an opportunity to forge a public consensus for lowering costs of education. An illustrative example is West Germany in the first decade of the twenty-first century, in which an actual increase in student numbers until 2004 and a very moderate decline thereafter (Kultusministerkonferenz 2011) was accompanied by excessive hiring freezes (Meetz et al. 2010). The West German case is a perfect example of a demographisation frame in which demographic facts are utilised as a means of reducing aspirations. Under tight budgets there is apparently a strong incentive to take advantage of the decline in student numbers to lower educational expenditure (Baum and Seitz 2003). We therefore conclude that although pressure to reduce educational spending is not a necessary result of population decline, the prospect of a declining population is well suited to legitimise it. Bearing this in mind, we now turn to the topic of personnel reduction in public services.

Retrenchment in the public sector is an interesting field of study because public sector labour markets are generally seen as inflexible when it comes to restructuring employment (OECD 1995; Bach 1999), especially when this involves a downward adjustment of the number of staff (Sackmann and Bartl 2007; Levine 1984; Corby 2000). We know from the literature on public employment that there is a deeply rooted ideal of public employment that is characterised by high job tenure, high job security and internal career paths (Keller 1993; Farnham and Horton 1996). However, this employment model has been developed for a very specific type of public sector organisation—one that is characterised by centralised structures of service provision (either at the state or national level), a fusion of the functions of purchaser and provider of public goods, together with a mode of financing the service-providing agencies that is based on incremental input budgeting. On top of this, the post-war era in which the traditional model of public-service administration gradually emerged was a time of unprecedented economic prosperity. It seems that this specific employment model is rather ill prepared for abrupt change, especially when this change requires a reduction in personnel. It therefore seems fair to ask how retrenchment is processed in such an employment model. We presume that the way that reduction is conducted will depend on three dispositions. Firstly, it will depend on the prevailing ideas about the nature of the public sector (the external flexibility aspect). We consider codified employment rules (e.g., employment protection legislation) to be an expression of these ideas (Lepsius 1995). Secondly, it will depend on the structural and institutional features defining the resources and opportunities. These features include the degree of division of labour (or, in other words, the degree of specialisation) and the size of the organisations granted the power to make autonomous personnel decisions or, alternatively, the administrative

level at which such decisions are made (the internal flexibility aspect). These features further involve the level of uncertainty of service-providing organisations in terms of the operational resources that they can expect to be available to them as a second vital aspect of the institutional structure (the uncertainty aspect).

We test our theoretical framework empirically by looking at teacher employment in Polish public schools. This field of research offers some interesting insights for various reasons. On the one hand, Poland has undergone a major restructuring of its education system in the recent past. One of the major features of this restructuring process has been an extensive decentralisation of the structure of service provision and of the structure of education financing. On the other hand, it is precisely the educational segment of the Polish public sector in which the ideal of public service and the special nature of public-sector employment relations are firmly grounded, both in terms of mentalities as well as institutionally (which is not in the same way true for the entire public sector in Poland) (Kopycka 2013). Moreover, due to changes in fertility behaviour, Poland has witnessed an enormous decline in the school-age population. We expect this demographic situation have posed a 'demand shock' to the existing service providers, making personnel reduction more pressing. In line with the theoretical framework of this book, we choose to see demographic changes as a demand shock that may trigger different potential reactions in attempting to come to terms with it. Indeed, we find expansive policies in the Polish school sector in times of declining student numbers both at the national and at the local governance level (see Chap. 7). Even if they are not necessarily motivated by demographic changes, they still have a substantial effect on personnel policy (generally speaking, they reduce the pressure to cut personnel) so that we can speak of them as an emergent strategy (Mintzberg et al. 1999). However, as has already been shown in Chap. 7, most of these expansion strategies are limited to specific educational fields and therefore do not eliminate the need to address the problem of surplus personnel, although they surely alleviate it.

We proceed as follows. Firstly, we offer some theoretical considerations on the three conditions of personnel reduction and formulate hypotheses concerning possible courses of action. Then we move on to discuss personnel policies in Polish public schools and explain them by reflecting on the specific institutional structural setting of the Polish school system and the norms governing public service employment. The discussion leads us to conclude that the mixture of internal and external personnel measures found in Polish schools is a consequence of the conflicting nature of the decentralisation of educational provisioning and the prevailing professional norms (e.g., the public sector as a 'good employer').

9.2 Theoretical Considerations

Public-sector industrial relations have traditionally been characterised by long-term and stable employment patterns guaranteed by extensive legal regulations. In public services, external personnel measures such as redundancy are either prohibited by law altogether or involve high severance payments. The emphasis on stability and

security of employment in the public sector has its roots in the special role of the state as employer. Public organisations are different from private sector organisations because of special requirements placed on their conduct and output (Christensen et al. 2007). Lane (2005) names three distinctive characteristics of public sector organisations: political involvement, accountability and non-profit purposes. Firstly, public organisations are subject to public scrutiny. That is why governments are interested in ensuring undisturbed service provision (Appleby 1953). The "political contingency" (Ferner 1988) of public sector organisations means that they pursue political goals rather than objectives of economic success as defined by the market. One of the implications for the field of industrial relations is that there is a strong incentive to avoid industrial disputes so as not to disrupt service provision, even if it means greater concessions to trade union demands (Ferner and Colling 1991). secondly, one of the biggest issues in the management of public service organisations is political accountability (Du Gay 2000). The delivery of public goods is a political matter and as such is subject to political control. The traditional way to achieve accountability of public sector agencies towards governments is via hierarchical work relations within organisations and an extensive body of regulations of due process. In order to realise its policies, the government has to ensure the compliance of public servants. Furthermore, the strict application of rules of conduct is necessary to guarantee neutrality and impersonality in public service provision (Clarke 1998), which are prerequisite to equality—a core value of public service (Lane 2005). Procedures reduce discretion, whereas hierarchical work organisation in the form of long-term employment relations ensures that employees as agents of the state are not prone to looting (Johnston and Romzek 1999). Last but not least, public sector agencies are non-profit organisations; they do not operate in the free market. Their goals are essentially political (as defined by policy) and not economic as they strive first and foremost for equity and fairness and not for efficiency. This has two implications for employment relations in public organisations. First, the absence of the signalling function of markets makes measuring performance considerably more difficult (Lane 2005). The second concerns incentives (Pandey 2010). Whereas the fortunes of employees in a private company depend on the economic success of their firm, so that the goals of employees and management are essentially the same, the principal–agent problem in the public sector is more accentuated (Lane 2005). One way to solve the problem is by having employees partake in the revenues. However, because public sector organisations do not produce output in terms of economic value, greater employee effort does not translate into higher economic gain. Employee motivation in public sector organisations is hence contingent upon the existence of a psychological contract (Coyle-Shapiro and Kessler 2003; Rousseau 1989) in which favourable working conditions (high job security, equitable treatment by promotion, benefits) are exchanged for high commitment (see also Akerlof 1982).

Besides the 'publicness' framework to explain the special character of employment relations in the public sector, there is a substantial body of research on this topic stemming from the sociology of professions (Macdonald 1999; Johnson 1972; Wilding 1982; Cousins 1987). According to this literature, the specific type of labour organisation in public services is a product of the public-sector growth in the post-

war era. The state has been a monopoly or near-monopoly provider of an extensive range of services, and the economic growth of the 1960s and -'70s has created favourable conditions for the steady expansion of service provision and public sector employment. Professions played an important role in this process because they possess the necessary expertise to organise service provision, reduce uncertainty as to the scope and scale of services and legitimise the actions of the state. In exchange, the state guaranteed the professions a monopoly position as service providers and institutionalised the demand for professional services, contributing in this way to professionalisation processes in many fields such as education and social work. At the same time, professions were able to negotiate favourable working conditions as well as high professional autonomy with respect to work organisation, goal setting and the allocation of resources.

The special character of employment relations in the public sector therefore makes it difficult to downsize employment because of long-term commitments and institutional guarantees.

With the advent of the neoliberal doctrine in public governance, a view of public sector employment relations as being characterised by a promise of long-term, secure employment and career advancement has been challenged. Emerging in an environment marked by slow economic growth and a perceived need to curb public expenditure (Bach 1999), the neoliberal reform movement has facilitated privatisation or the contracting out of substantial parts of public services (Burgess and Macdonald 1999) along with the downsizing of personnel. Within the framework of new public management, a model of industrial relations has been put forward that adopts human resources management strategies from the private sector, accentuating new forms of flexible employment in particular. This reorientation has been legitimated by two distinct logics: the logic of universalism and isomorphism (Clarke 1998). According to the first logic, all organisations are essentially the same and the alleged specificity of the public sector is merely a myth (see Boyne 2002 and the various examples in Rainey and Bozeman 2000). If this is the case, then the logic of isomorphism (DiMaggio and Powell 1991) would suggest that public sector organisations should look to firms in the private sector for best-practice examples since they are widely considered to have superior performance in terms of efficiency. In the quest for more efficient personnel management in the context of growing state expenditure (Castles 2001), the need has been recognised to lower labour costs and achieve greater flexibility in the use of personnel resources like the private sector does. The new paradigm of human resources management for the public sector (Horton 2009) includes the following: an introduction of performance-related pay at the expense of seniority rules, a decentralisation of the personnel function, which allows for greater diversity in employment conditions across public sector organisations (Coyle-Shapiro and Kessler 2003), and short-term employment contracts and recruitment from outside of the public service instead of long-term employment and internal career paths. These changes reflect the new way of thinking about public governance and a widespread belief that superior performance in the public sector can be achieved by replacing hierarchies with market-based contractual relations as the dominant coordination mechanism (Hood 1995; Pollitt et al. 2007). Accordingly,

employment relations in public sector organisations are seen to be managed more efficiently when they are on a contractual basis with an emphasis on output control (Carter et al. 2010) and not via hierarchical relationships in which performance is motivated by long-term employment promises and favourable work conditions.

The two opposite models of industrial relations in the public sector have consequences for the strategies of personnel reduction. Under the new public management framework, we would expect personnel cuts to be more frequent and to be executed in a more direct manner, i.e., via layoffs of excess workers. In the traditional public administration model, by contrast, a personnel surplus would not be addressed directly since direct measures such as layoffs are not compatible with the ideal of state employment as being fundamentally different from employment relations in the private sector. Instead, we would expect personnel downsizing to proceed as an incremental process in the course of natural turnover, i.e., through retirement of older employees and hiring freezes (Levine 1984). We can therefore formulate the first hypothesis: the commitment to the traditional model of employment relations in the public sector will lead to incremental personnel reductions based on retirement and hiring freezes (*internal labour market hypothesis*).

The extent to which this type of incremental reaction to resource shrinkage leads to a qualifications mismatch and a resulting decrease in service quality increases with the degree of division of labour and falls with organisational size. Let us consider two extreme cases, one in which each position requires unique qualifications (extreme division of labour) and one in which qualification requirements are the same across all the positions within an organisation (no division of labour). In the second scenario, personnel cutbacks via retirement and hiring freezes do not produce any qualifications mismatch as every employee is fully substitutable (ultimate functional flexibility). In the first scenario, by contrast, no one within the organisation can assume the tasks of a retiring colleague without losses in quality because each employee possesses a unique expertise that the others do not (no functional flexibility). In this latter case, personnel reduction via retirement and hiring freezes necessarily leads to a qualifications mismatch unless those who stay acquire new expertise. In real-world systems, functional differentiation is a function of scale. According to Durkheim, a prerequisite for functional differentiation is population growth. In transaction cost theory, high levels of specialisation are to be expected only when there is substantial demand; otherwise specialisation would lead to economic disadvantages (Williamson 1994). In the case of public services, the level of functional differentiation as well as the size of organisational units of service provision do not follow economic logic but are decided in political processes. A result of the interaction of these two parameters, functional differentiation and organisational size, is a certain level of organisational functional flexibility. It is high in internally non-differentiated organisations independent of their size. In differentiated organisations, the level of functional flexibility is negatively dependent on the level of differentiation and positively dependent on organisational size. Given a certain level of differentiation, organisational size alone determines the degree to which positions within an organisation are unique. Therefore our second hypothesis is that in educational systems with higher degrees of functional differentiation and

smaller organisational units, we will observe layoffs and new hires more often than in systems with lower degrees of division of labour and/or larger organisational units (*external labour market hypothesis I)*.

Thirdly, it is our view that pressures for personnel adjustment at the organisational level in reaction to fluctuations in educational enrolment are greater in cases where the delivery of educational services is financed by educational vouchers as compared to systems where educational funding is based on historical costs and incremental budgeting. Educational vouchers as a way of financing educational services have been introduced within the framework of new public management. This change in the mode of financing public services has been a necessary counterpart to the introduction of quasi-markets in public service delivery and has been a way of implementing market logic in the public sector (Hood 1995). In the new public management model, public agencies compete in the quasi-market for clients. The more clients they serve, the more subsidies they receive. This competition will ensure that underperformers are weeded out of the market because rational clients will choose better over poorer services. Under new public management, the semi-anonymised (Kirkpatrick et al. 2005) public organisations in the traditional public administration model are transformed into autonomous units that are responsible for their own budgets and bid for tenders from the purchasers or compete directly for clients at a given 'price' for their service. The introduction of the market logic into the public delivery of education has two important consequences for personnel policy in this field. The change in the mode of financing education away from incremental budgeting, whereby the size of the annual budget is based on the budgets of previous years plus or minus increments, towards budgeting by student numbers influences how sensitive public agents who are responsible for delivering education will be to fluctuations in the number of students they serve. At the same time, the introduction of quasi-markets for education and the replacement of a district-based system of student allocation by a policy of free school choice changes the scope of fluctuations diametrically. In systems with free school choice, schools face far stronger uncertainty as to the future levels of enrolment and can use data from public registers only as a rough approximation because they have to take into account the placement decisions of parents and students, which are the result of complex decision-making processes by individuals with different preferences and resource structures. By contrast, for schools in district-based allocation systems, data from local resident registration offices presents a highly reliable information source on the size of future cohorts of entrants. Schools in education systems where the funding of education takes the form of a voucher are therefore subject to stronger budgetary pressures to match teacher employment with current levels of enrolment. However, they are also confronted with higher levels of uncertainty with regard to the latter. Given these two conditions, we expect that the more uncertainty about future levels of demand and/or financial resources there is in these systems, the more stress there will be on personnel policy to ensure greater levels of external flexibility in the management of personnel resources by resorting to measures such as layoffs and fixed-term contracts (*external labour market hypothesis II*).

These three hypotheses constitute the point of departure in the subsequent analysis of personnel policy measures in Polish public schools that are confronted with falling enrolment. As is to be shown, the rationale of Polish head teachers' employment practices is to maintain high levels of job security at least for a part of the teacher workforce despite the changed institutional and structural setting of service provision that promotes or rather necessitates high levels of external flexibility in teacher employment. We start by describing personnel practices in Polish public schools. Then we explain them as a strategic response to the flexibility problem in a decentralised structure of service provision.

9.3 Personnel Policy in Polish Public Schools Facing Falling Enrolment

There are a few common elements of personnel policy that we find in Polish schools with shrinking student numbers. Firstly, layoffs of teachers are generally avoided. Instead, teachers are encouraged to retire as soon as possible. Secondly, teachers specialised in more than one subject play a prominent role, and training such teachers is one of the main foci of school personnel policy. Thirdly, there is a higher propensity to use fixed-term contracts. Fourthly, it is common policy for teachers to work overtime. Fifthly, there is a relatively high mobility between schools in the same municipality. We will discuss these observations below using qualitative and quantitative material. Having done this, we will focus on the rationale of these measures and explain them with regard to the three aspects of personnel policy that we formulated in the introduction, that is, the aspects of external flexibility, internal flexibility and uncertainty.

9.3.1 Personnel Policy Measures

9.3.1.1 Layoffs

The analysis of the interviews with head teachers in Polish public schools allows us to conclude that redundancies are a very rare phenomenon there. Certainly one reason for this is that the majority of teachers in full-time employment have the legal employment status of a public servant and can be made redundant only under certain conditions. They can, however, be laid off on economic grounds, for instance, in the case of falling demand. Teachers who do not have a public servant status (as a rule, part-time teachers and those who have not yet reached the third level of the teacher career path, which is generally obtained after 4 years of teaching service) are employed on a contractual basis and their indefinite employment contract can be dissolved according to the rules of the general labour law. They do not enjoy any special employment protection. The existing formal possibilities of layoffs notwithstanding, head teachers are extremely unwilling to use this type of measure to

reduce personnel. A redundancy is perceived as the worst solution to the problem of excess staff because it means a loss of financial security for the person affected. In their view, a layoff is just not the 'right' thing to do.

> I never lay someone off who couldn't find any job at all. Usually they were the people who decided to retire, so-called privileged retirement, and thank God, because it is an employer's dilemma, right? To have to lay off a young person right after finishing studies, that is not very nice. It always bugs you later on, even though those are objective factors. (Kołowina GRU: 58–64)[1]

Apart from general reservations of an ethical nature, many head teachers find it hard to execute layoffs because they have friendly relationships with at least part of the workforce. Such affiliations are not uncommon since head teachers in Poland have fairly often been former teachers at the school that they currently head.

> Unfortunately, in the context of the shrinking of our school and falling numbers of pupils and, along with this, the number of classes, [May is] a very difficult time. I had to lay off some teachers, and as a result of this, I had to make some decisions, which, as I was saying, were personnel decisions concerning the people I have worked with for many years, and that's why I would say for human or psychological reasons they were very difficult. (Goromierz GYM: 47–53)

Unfortunately, our quantitative dataset does not allow us to assess the number of layoffs as it is not possible to discriminate between voluntary and involuntary terminations of employment relationships. However, the qualitative analysis clearly indicates that they are very uncommon.

9.3.1.2 Retirement

At the time of collecting our empirical data (2006), the teachers employed in Polish public schools had the right to retire, no matter how old they were, once they had 30 years of pension eligibility time (which could include the time spent in tertiary education), of which at least 20 years had to be spent actively teaching in educational institutions. Once these conditions were satisfied, a teacher could choose to either retire or continue working until he or she reached general legal retirement age (60 for women and 65 for men). This early retirement scheme for teachers meant that many teachers could claim retirement benefits as early as age 50 (we are assuming that teachers typically completed general education at age 20, entered university and then worked until they were 50). This privilege was abolished in 2008. Although teachers currently also have the right to retire early, they have to accept considerably lower retirement benefits if they choose to do so.

Our data shows that retirement is a very common means of personnel reduction. Among the schools with falling enrolment in our sample, all reported having encouraged older teachers to retire in order to reduce personnel. According to our qualitative analysis, reducing personnel via retirement is universally acknowledged

[1] Note that names of places are pseudonyms in order to protect the privacy of interviewees and to avoid stigmatisation of places. A list of quoted interviews is to be found in Chap. 4 (Table 4.1).

as a more preferable way of adapting to falling demand than layoffs. It is a common view that retirement of older colleagues is a solution to the problem of teacher surplus that reflects the idea of solidarity as it minimises the social costs of the downward adjustment of the number of personnel. Avoiding layoffs and transitioning older workers into retirement is perceived as a success under the given circumstances of necessary personnel cutbacks.

> Now, thank God, the issue of redundancies has a bit/because it is a most painful moment for a head teacher, when he is about to make somebody redundant, to pick that person who will be out of job/the situation has calmed down a bit now, but when I started working here in '99 then, practically speaking, until 2003 each year somebody had to leave. One, two, three, four, five individuals a year because of the demographic changes that affected us at that time.[…] Almost half of the workforce […] had to leave within a couple of years. Luckily, luckily, most of these teachers, more than 90 per cent left for early, so-called teacher retirement (Buciszewo GRU: 77–90).

These major outflows into retirement at the time of our study were also facilitated by changes in qualification requirements for teachers. In order to improve school quality at the beginning of the new millennium, Polish legislators introduced higher qualification standards for teachers, requiring a university degree. Many, especially older teachers, however, had completed their education at special 3-year teacher schools and not at a university. Once the new legislation entered into force, they faced three options: to take up studies to acquire the required university degree, to accept considerably lower remuneration or, in the case of those who were eligible to draw retirement benefits, to retire before the transition period granted by the legislation for acquiring the necessary credentials expired.

In our quantitative dataset, there is no record of retirement numbers. However, we can use a chart of the age distribution of teachers in public schools as an approximation of retirement frequency at a certain age. We clearly see a major drop in the number of teachers starting among the group approaching age 50 and then declining rapidly so that by the age of 60 almost all teachers have already left school for retirement (Fig. 9.1).

9.3.1.3 Multi-Subject Teachers

Like retirement, the employment of teachers qualified to teach more than one subject is another widely used measure of personnel policy. In many interviews, these 'multi-subject' teachers were even regarded as the most crucial personnel asset, and training teachers in multiple subjects was seen as the most important issue in personnel management. The importance of these teachers in the personnel planning of schools arises from the fact that teacher education in Poland is very subject-specific. After finishing their university studies, teachers are allowed to teach only in the subject they studied. In order to be qualified to teach other subjects, they have to acquire a university degree in these subjects; this can be done in postgraduate studies, which take approximately three to four semesters. These studies have to be financed by the teachers themselves, although in many municipalities they are partly subsidised. In

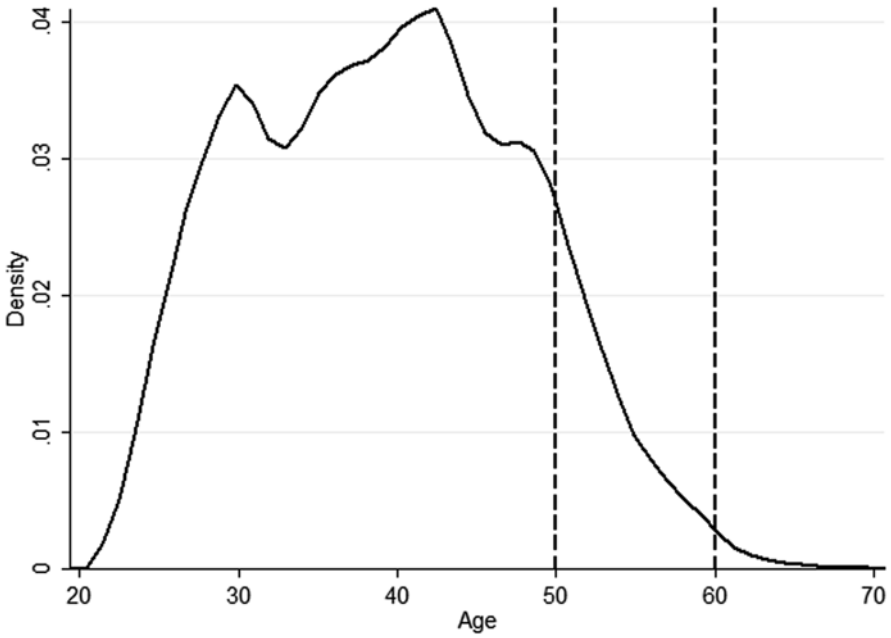

Fig. 9.1 Age distribution of teachers in Polish public schools in 2007. (Source: MEN 2005–2007; our own calculations)

spite of the substantial effort that attaining further specialisations takes, many teachers take up postgraduate studies to expand their qualifications because this increases their chances of full-time employment in times of declining enrolments.

> The chemistry teacher now has 19 and will have at least 16 [teaching hours, a full-time position is equivalent to 18 hours of instruction], and this chemistry teacher completed additional postgraduate studies in mathematics, which is a related subject. This is insuring oneself for the future, when the school will have one or two classes fewer [and therefore the number of chemistry hours will drop], so that he does not have to teach in two schools. For I am a supporter of a situation where the teacher teaches at only one school because the teacher should always be available for the pupil. For me the worst kind of teacher is not necessarily the one that teaches poorly but the one that has to leave for another school, he finishes the lessons and leaves. (Mielcz GYM: 568–575)

Head teachers perceive teachers who are qualified in multiple subjects to be very convenient for two reasons. Firstly, as we stated above, Polish head teachers are very uncomfortable with the situation when they are forced to lay off teachers who are not eligible for retirement. If teachers are qualified to teach more than one subject, it is easier to ensure them stable employment. Secondly, employing multi-subject teachers is especially advantageous in small schools in rural areas because many subjects in these schools require only a few teaching hours per week. Instead of recruiting and then employing a large number of teachers on a part-time basis,

Table 9.1 Number of specialisations of Polish teachers, in per cent. (Source: MEN 2005–2007; our own calculations).

Number of specialisations	Percent
1	58.5
2	29.6
3	9.2
More than 3	2.6

school heads prefer to have a smaller number of full-time teachers who are qualified to teach different subjects.

> Surely education, [it is welcome] when the teacher continues his education. Because the school is very small and for many subjects there are very few hours, the teacher who completes extra post-graduate studies and acquires additional qualifications is very precious to me. I know that I do not have to employ two or three additional people because one has qualifications to teach three subjects, and I take comfort [in knowing] that I do not have to search for anyone else (Mielcz GRU: 93–97)

Our quantitative data shows the propensity of teachers employed in Polish public schools to acquire further specialisations. We see that more than 40% of teachers are qualified to teach multiple subjects. This percentage has to be considered high given the effort it takes to obtain additional specialisations. As many as 10% of teachers have two additional qualifications (Table 9.1).

9.3.1.4 Fixed-Term Contracts

A fixed-term contract is a common form of employment in Polish schools. First of all, young teachers entering the profession have to be employed on a fixed-term basis by law in the 1st year of employment. During this time, they complete their probation year (which in some cases can be extended to 2 years) and are generally offered an employment contract of indefinite duration thereafter. Secondly, substitute teachers are employed on fixed-term contracts. Thirdly, all part-time employment can initially take the form of fixed-term employment. Moreover, head teachers have the right to offer a fixed-term contract anytime they can prove that the labour demand is temporary. This last issue plays a major role in schools with declining student numbers because such fixed-term employment allows them to cover temporary high demand and avoid dismissals later.

> That is why, especially the previous head teacher, who held her position for more than 10 years, in view of the prospect [of the falling number of children] tried to plan employment so that the contract would end at the proper point in time without causing too many problems. So usually those were the fixed-term contracts. So when one knows that there will be no need for so many hours of foreign languages or mathematics/Even though at a given point in time there is a need to employ a teacher, the head teacher would offer a fixed-term contract if there would be no work for the teacherin the years to come (Goromierz GYM: 162–171)

After a young teacher has completed his/her probation year, a head teacher should, according to the intention of the legislator, employ him or her on a permanent contract. In many cases, however, young teachers continue their employment as sub-

Table 9.2 Types of employment contracts in Polish public schools 2007. (Source: MEN 2005–2007; our own calculations)

Type of employment	Percent
Fixed-term contract	19
Open-ended contract	25
Public servant status	56

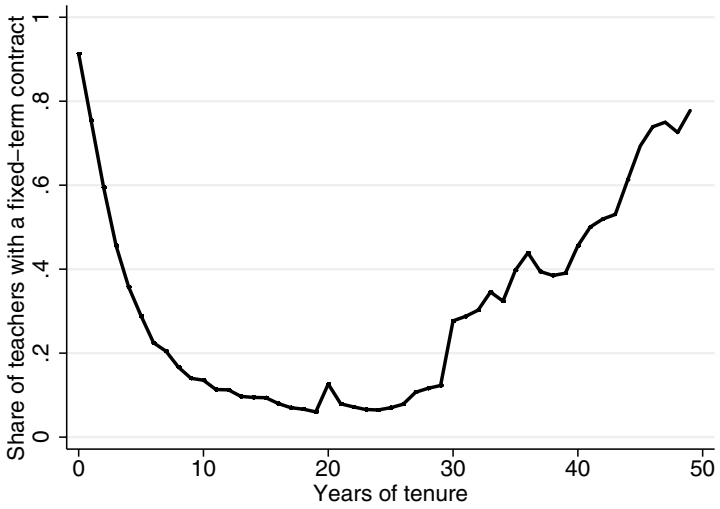

Fig. 9.2 Percentage of teachers with fixed-term contracts by years of service. (Source: MEN 2005–2007; our own calculations)

stitute teachers or on a part-time basis. In these cases they are offered fixed-term contracts for subsequent periods as well.

We can assess the frequency of fixed-term contracts in Polish schools using our quantitative dataset. According to this data, almost 20% of all employment contracts with teachers were fixed-term (Table 9.2).

The probability of fixed-term employment is indeed highly correlated with age. However, we see that the risk of being employed on a fixed-term contract does not drop rapidly in the 2nd year of service (which we would expect as a result of the legal regulations), rather it decreases only gradually. After 4 years of employment, 30% of the teachers are still employed on a temporary basis (Fig. 9.2).

9.3.1.5 Overtime

Overtime is a fairly common element of personnel policy in Polish schools. It should be mentioned here that the student contact time of teachers employed full time in Poland is one of the lowest in Europe, amounting to 14 full hours a week (or 18 teaching hours of 45 min in duration) (Eurydice 2012) and resulting in low salaries. Therefore teachers are generally keen on working overtime so as to increase their

salaries. Our qualitative data shows that there are two distinct and contradictory policies towards overtime. On the one hand, head teachers are generally in favour of teachers working overtime because it gives the school heads more flexibility in responding to fluctuations in labour demand. Especially in schools facing declining enrolment, head teachers are willing to use overtime to escape the need of employing new personnel, which they expect to have to reduce again in the near future. Interesting here is that overtime is also preferred over fixed-term employment. It seems that for head teachers fixed-term contracts are also emotionally binding, even if not to the same extent as open-ended employment contracts that require termination if teachers are to be laid off. Instead, overtime is a rather unproblematic personnel policy measure because it is welcomed by teachers and convenient for the head teacher.

> I did such a perspective plan, how many children the school will have in the next 10 years and, as a result of this, how many classes there will be, what kind of instruction hours and subjects there will be and how the number of teaching hours will decrease, how many teachers will be needed […] Because there are certain pressures, because of the high unemployment rate, mainly from the side of the school inspectorate to employ as many young teachers as possible and not to resort to overtime […] Yet if I consider that in two years I will have to make somebody redundant…/That is why I try to resist these pressures somehow, because it is very difficult to lay off a teacher, even if you hire them for only a year and this person knows that this is only for a year, they always hope that they will be able to stay longer, that they will be able to hold on to this employment. So I try to resist those pressures quite fiercely because from year to year the number of class units falls, the number of hours falls and this way [resorting to overtime instead of employing new personnel] I do not have to make people redundant (Kołowina GRU: 67–81)

The logic presented in the quotation stands in contrast to the opinion held by some municipalities and regional school inspectorate offices. They consider overtime not in the context of employment stability but rather in the context of active labour market policy. They discourage head teachers from granting overtime for those already employed and encourage them to employ new teachers on fixed-term contracts instead. The idea is to relieve slack municipal and regional labour markets and give young graduates an opportunity to enter employment.

> Practically speaking, a teacher wants to work as long as he can for financial reasons, on one and a half times regular hours, or to have 1¾ times regular hours. And this is, so to speak, not entirely in the sprit of the law, that is the first issue. And the second issue is the employment prospects of young graduates/The way we try to do it is that when there is, let's say, more than one and a half positions for teaching one subjectin a particular school, for example, then in such a case one teacher gets the full position and the other gets the remaining half and a bit more (Sierowice GEM: 126–131)

Overtime, however, is oftentimes not the result of careful planning but an ad hoc solution to a sudden understaffing problem. Such situations arise when actual school admissions deviate considerably from the predicted numbers. Personnel matters are planned in May of each year and rely on predicted enrolment. However, the exact student and hence class numbers remain unknown until the first days of September when the school year begins, not least because of the policy allowing freedom of school choice. Formally, parents have to register their children by the end of April if they choose to send their children to a school outside of their district. It is com-

Table 9.3 Overtime in Polish public schools, 2007. (Source: MEN 2005–2007; our own calculations)

Overtime	Percent
None	45.98
Up to 5 teaching hours	37.62
More than 5 teaching hours	16.40

mon practice, though, that parents fail to keep this deadline and register their children late. Yet being 'late' never bears negative consequences since every school is interested in maximising its number of students. Such discrepancies between the deadline for decisions in personnel matters and the effective deadline for student admissions may result in curious situations in which a school head decides to reduce personnel only to realise soon thereafter that the school's labour demand will be higher than expected after all.

> So, luckily, it somehow turned out that while I had to reduce working hoursand lay off teachers [in line with the predicted enrolment numbers in planning for the next school year], we succeeded in opening two additional classes after all, and, as a result, some of my teachers are now working substantial amounts of overtime (Goromierz GYM: 826–830)

According to our quantitative dataset, overtime is indeed frequent. It occurs in more than half of all employment relationships in Polish public schools (Table 9.3).

9.3.1.6 Teacher Mobility Between Municipal Schools

An important issue in personnel policy in Polish schools is also teacher mobility between schools. We treat it as a part of personnel policy because this mobility pattern is not simply an aggregation of individual employment decisions. To the contrary, it is the result of strategic action by head teachers and municipalities in the area of teacher employment. Mobility between schools takes two forms. Firstly, a rather small proportion of teachers teach in more than one municipal school. Some of these teachers combine their working hours in two or more schools into one full-time position. Such arrangements are often a result of falling enrolment, reductions in class numbers and, consequently, fewer teaching hours. Many teachers, however, take up additional part-time jobs on top of their full-time employment at one school. Using the information from our quantitative dataset, we can assess the magnitude of these phenomena. Teachers working in two or more schools simultaneously amount to 10% of all teachers employed in Polish public schools of general education. Over 30% of them have to combine employment in more than one school in order to maintain their full-time job. These small numbers are due to the fact that head teachers are rather sceptical towards employment of teachers in more than one school.

> Exactly, such an 'hourly teacher' does not interest me, and the second thing is that an 'hourly teacher' will not do anything extra at the school because he runs from one school to another. By contrast, a teacher who I have here and has the same qualifications, I know that he will do his job well and will also perform other activities connected with other tasks at school, like preparation of a ceremony, the school's newspaper or extra work with children. (Mielcz GRU: 102–108)

Table 9.4 Teacher mobility in Polish public schools, 2007. (Source: MEN 2005–2007; our own calculations)

Mobility pattern	Percent
Termination (voluntary, layoff, retirement)	8.39
Change to a school in the same municipality	8.14
Change to a school outside the municipality	0.88
No change	82.60

Secondly, many teachers move to another school within the same municipality when they lose employment at their previous workplace due to the closing of class units. This movement is facilitated by head teachers who are directly involved in the search for work opportunities on behalf of those whom they have had to lay off. As we have described above, school heads feel most uncomfortable in a situation where they are forced to lay off teachers. Indeed, they go to great lengths to ensure employment for the teachers whom they have had to make redundant.

> By the end of the school year it looked really bad. I did not have enough teaching hours for the math teacher, so together with this teacher and our ZOPO, which is the municipal education administration unit, we looked for vacant teaching hours at other municipal schools for the teacher to combine them and maintain full-time employment (Sierowice GYM: 69–72)

Our quantitative data for the years 2006 and 2007 show the frequency of intra-municipal mobility in the context of other mobility patterns. We clearly see that mobility within the municipality is almost as frequent as the termination of employment in Polish public schools altogether and amounts to 8 %. Termination of employment has a straightforward age pattern. We found a bimodal age distribution with the first modelying in the later years of a teaching career (which can be attributed to retirement) and the second mode at approximately 27 years of age (indicating higher exit mobility, both voluntary and involuntary, among younger employees). By contrast, mobility between schools is only slightly more frequent for the younger teachers, and hence the majority of those changing schools within the same municipality are middle-aged teachers (Table 9.4).

9.3.2 Personnel Management Strategies

Having discussed the individual personnel policy instruments in detail, we will now consider them in the light of the three hypotheses we formulated in the theoretical part of this chapter. We start with the problem of external flexibility.

9.3.2.1 Retirement as a Strategic Response to the External Flexibility Problem

External flexibility in industrial relations can be defined as the ease with which personnel can be hired and fired. In the vast majority of organisations, these pro-

cesses are institutionalised to a greater or lesser degree, thus restricting the freedom of action. Apart from formal legal regulations, there also exist normative rules that, although informal, can be perceived as binding. If an employer perceives the termination of an employment contract to be costly due to existing restrictions of a formal or informal kind, that employer will search for alternative solutions to the problem of overstaffing.

As we have just shown, there is a strong tendency in Polish schools to avoid laying off surplus personnel. This is firmly grounded in the professional affiliation of head teachers who first and foremost perceive themselves as teachers.

> Above all, I am a teacher and have been since 1985. I became a head teacher on the first of September 1999. I have a rule that you can be a head teacher from time to time, but you always are a teacher (Buciszewo GRU: 20–21)

In the face of the strong inclination to avoid redundancies—a propensity resulting from high professional solidarity between the head teacher and the teaching staff—school heads tend to turn to retirement as a functional equivalent to layoffs. Encouraging retirement provides a possibility of reducing personnel without the negative externalities involved in the involuntary termination of an employment contract. One of the major issues of concern in the case of layoffs is their adverse effect on the morale of the "survivors" (van Dierendonck and Jacobs 2012; Coyle-Shapiro and Kessler 2003). A redundancy is perceived as a breach of the psychological contract between the parties in which high commitment on the side of the employee is exchanged for the promise of long-term employment by the employer. In a situation of inevitable personnel reduction, retirement is therefore the option of choice because of its higher social acceptability. For one, the status of retirement is perceived to be preferable to the status of unemployment (Casey 1992). Furthermore, those retiring are entitled to retirement benefits and in this way are socially more secure than those who must turn to the labour market upon losing their job.

> We were quite lucky in this respect. When there was a need, and practically every year there has been such a situation due to organisational changes, which means that the number of class units has been decreasing, so the number of teachers would also have to decrease […]. So it would always be that the teachers who were leaving were usually retiring. This was an accomplishment of the head teachers and the teachers themselves. They were aware that they could retire and now they could choose to do so while their colleague who taught the same subject and had only ten years of tenure could stay. They would think, I will retire because I have the means to live. I have a pension and the younger colleague can continue to work. So that is how it was usually done with the retiring of the teachers; painless, I would say. I am thinking right now, trying to remember if we had such case when we had to lay off a teacher who remained… no, no we didn't ever have such a case that someone remained without a job because of organisational changes (Buciszewo GEM: 166–180)

> So, and we have merged these schools. […] And it has been a fortunate merger because it took place without victims […] so that nobody lost their job, including the school administrative personnel. It turned out that some of these people retired and so nobody has fallen victim, of course metaphorically. So nobody has lost their job, to say it clearly (Goromierz GEM: 188–195)

Retirement as an instrument of personnel reduction has a long tradition in developed economies. It was widely used as a measure to restructure personnel during the period of economic slowdown in the 1980s and 1990s (Casey 1991) and as an answer to pressures arising from globalisation and the automation of the production process (Blossfeld et al. 2006). One of the most prominent examples of the use of early retirement schemes on a large scale is the East German labour market in the early 1990s (Lutz 2000). The many advantages of retirement as a solution to the problems of overstaffing have led scholars in the fields of life-course analysis and labour market research to conclude that this measure would prevail against concurrent instruments such as part-time arrangements or sabbaticals and to proclaim that it is "the way to go" (Kohli et al. 1983). However, personnel reduction through retirement has disadvantages as well. Putting arguments of sustainability and the exploitation of retirement systems aside (Ebbinghaus 2005; Casey 1992), we concentrate on the organisational level. Firstly, hiring freezes, which are a necessary counterpart to retirement as a means of reducing personnel, destabilise the organisational age structure (Wiekert 2002) and result in increasing labour costs per employee (in seniority-based remuneration systems, see Stewman 1988). Furthermore, hiring freezes are thought to have a negative impact on an organisation's innovation potential, further perpetuating organisational decline (Pfeffer 1983). Secondly, the availability of retirement as a means of staff reduction depends on the demographic structure of the workforce (Budros 2001). There has to be a reservoire of potential early retirees in a given organisation that can be encouraged to exit the organisation in order to retire. In relatively 'young' organisations there are few or no potential retirees.

> So I can say that there were very few retiring teachers […]because from the very beginning we were a very young school, also with regard to teaching personnel (Goromierz GYM: 181–187)

Thirdly, a strategy of workforce reduction based on early retirement and hiring freezes often leads to significant losses in service quality as exits into retirement do not necessarily occur in the areas of labour surplus. If open positions are reoccupied in the course of an internal reallocation of employees, then the quality of service decreases as a result of qualifications mismatches, unless employees are offered retraining programmes, which take time and are costly. For a personnel reduction strategy based on retirement to be practicable, it therefore depends on a high level of internal flexibility inthe organisation of labour. This brings us to the next issue.

9.3.2.2 Multi-Subject Teachers and Municipal Internal Labour Markets as a Strategic Response to the Internal Flexibility Problem

There are two facets of internal flexibility that facilitate workforce reductions by means of induced retirement. One is the degree of the division of labour. In organisations where the division of labour is high, position holders are required to possess specialised knowledge and qualifications. In the case of an extreme division of labour, each position would require unique expertise. In organisations of this kind,

the transfer of employees between positions is difficult and leads to losses in productivity and service quality. High degrees of division of labour are therefore a major obstacle to the internal mobility of the workforce. If qualification requirements for certain positions within the organisation are institutionalised on the basis of legal requirements, then such internal reallocation of staff without acquiring additional qualifications is virtually impossible.

With respect to teacher qualification, the Polish education system has to be considered highly rigid. On the one hand, teachers in Poland are initially trained for teaching one subject only. On the other hand, there are strict qualification requirements concerning the allocation of staff to particular fields of instruction. After finishing 5 years of university studies, graduates are qualified to teach in Polish schools only the very subject that they have trained for and no other subject whether related or not. This circumstance is a source of complaints from the head teachers.

> I am against these qualifications, that is, this rigorous treatment of qualifications. Because when a teacher comes along who has received pedagogical training and when he is qualified to teach mathematics and informatics, then why for God's sake can he not teach domestic science, these two hours at this little school? These subjects have a great deal in common and are similar, one can certainly find something. Or, what I have already said, teachers who have a degree in integrated instruction [grades 1–3], they had so many hours in arts since this university course involves lectures on the history of art and practical exercises and didactics. Can't we say that such a teacher is qualified to teach arts? Do we really need a graduate in arts? (Mielcz GRU: 206–214)

The situation in Poland is very different to what we find in Germany, for instance. Although there are strict rules regarding teacher qualifications in the subject of instruction, teachers in Germany are certified to teach in three subjects upon graduation, not just in one. In Sweden, on the other hand, students are taught by the same teacher in the first 6 years of instruction; there is no division into several subjects (Andersson and Waldenström 2007). In England, by contrast, there are no strict regulations concerning the allocation of teachers to subjects. Teachers are basically allowed to teach other subjects and other age groups than the ones for which they have been trained (Howson and McNamara 2012).

The other aspect of internal flexibility influencing the degree of internal mobility of staff is organisational size. One could speculate that as an organisation grows in size, the functional flexibility of the workforce (what we have described as the degree of division of labour) becomes less crucial in the process of reducing personnel by means of retirement. Given a normal age and skills distribution in an organisation and given that the labour surplus is not skill-specific, we can hold that the bigger the organisation, the more probable it is that the labour surplus and retirements will even out. We can therefore conclude that the size of an organisation can alleviate the problem of low functional flexibility.

The Polish educational reform of 1999 decentralised the organisation of teacher employment. Presently teachers are employed directly by the school, and head teachers are the ones responsible for personnel matters. As a result, every school constitutes a separate organisational labour market. Teacher mobility between schools therefore requires an additional coordination effort. The small size of organisational units together with the low functional flexibility of initial teacher qualifications in

Poland are unfavourable conditions for the internal mobility of teachers and for personnel reduction strategies based on natural outflow of older employees. A head teacher of a lower secondary school spoke about the negative effects of dividing one large school into three separate organisations:

> Now that three gimnazja[lower secondary schools] have been opened, the head teacher of each one is responsible for his school; and now we have a situation that in town X there are only four teaching hours in chemistry, so now what?Where should this chemist come from? (Mielcz GYM: 186–188)

Conversely, a head teacher of a school that combines primary and lower secondary school under one roof reported positive effects of scale on personnel planning and improved opportunities to mitigate frictions between supply and demand.

> [I asked] the biology teacher to finish nature studies, and so we have nature lessons in primary school and biology [in lower secondary school]. If there are no hours to give [the teacher] here [in primary school], I have some there [inlower secondary school] (Starów ZS: 342–343)

In a situation of low functional flexibility and a high fragmentation of the units providing education services in the Polish educational sector, there is little internal flexibility potential, which is necessary for the successful implementation of personnel reduction by means of retirement and hiring freezes. As we have seen in the description of the individual personnel policy instruments, Polish head teachers still tend to refrain from turning to external solutions such as layoffs under these circumstances. Instead, they develop strategies to raise the internal flexibility potential and avoid redundancies. The strategic response to the problem of high degree of specialisation paired with the fragmentation of the personnel function is the development of teaching staff with multiple specialties on the one hand and establishing municipal teacher labour markets on the other.

Although costly for a teacher in terms of money, effort and time, more than 40 % of Polish teachers acquire further qualifications allowing them to instruct in another subject. As the head teachers indicated in the interviews, teachers mostly take up postgraduate studies for subjects where they expect vacancies to open up in the near future because older colleagues are on the verge of retirement. In this way, instead of employing new personnel, teaching hours are distributed internally, and those already employed are able to keep their full-time positions in spite of declining class numbers.

> I was so lucky that precisely because of this specialisation in more than one subject that all of my teachers have/ [the necessity to lay off a teacher] has not occurred in my school for the last 5 years or so. They all have/if I employ anybody new, then [it is] only because of longer sick leave or maternity leave […] And such a teacher knows that he is employed for the duration of the leave. Therefore it is immensely helpful in my school to have multi-subject teachers. So that I can scrape these full-time positions together, right? Because everything has to be/everybody has to be employed according to his/her qualifications, but then I put together these 18 hours [of instruction time, being equivalent to a full-time position] out of informatics and integrated instruction [school instruction in grades 1–3] or arts plus something else, right? And I then I have a full position. So I did not have to reduce anybody [their working hours]/.Well, parallel to the reform/I took it into consideration, and I have simply said that we would not survive if we were to stick to our one subject. We need to have something else so that we can combine hours to secure full-time positions (Dobroniec GRU: 203–215)

> We have fewer children in school than was the case six, seven years ago, but we have managed our personnel in such a way that some retired and we automatically refrained from employing anybody new in their place. By contrast, if we had part-time teachers, these people would acquire further qualifications to teach other subjects, and they would take the place of a retiree. Let me give a recent example. A lady has been teaching informatics at our school part time, and a physics teacher was going to retire. And I had already talked to this lady two years ago […], because I knew that this gentleman would retire at the age of 60; and I proposed to her that she take up post-graduate studies in physics. She agreed and completed these studies, and when this gentleman retired, she took his place as a fully qualified physics teacher and we did not employ a new person […] So this is how we try to manage the teaching staff by thinking ahead. So that we try to painlessly construct these full-time positions (Sierowice ZS: 234–247)

The quotations give a good account of the personnel management strategy employed to increase the functional flexibility of the teaching staff in order to avoid layoffs in the face of declining enrolment. By planning for the retraining of staff in fields where openings are expected in the future, head teachers are able to cover most of their personnel demand internally and therefore do not need to employ new teachers.

This strategy is supplemented by another one, which is directed at circumventing the disadvantages of small organisational units.As we have seen above, head teachers in Polish public schools very often cooperate in personnel matters and exchange teachers. This leads to the emergence of municipal labour markets for teachers, and the coordination of human resources is moved from the school to the municipal level, at least partly. In this way, the effects of scale can be used to additionally facilitate filling vacant positions internally and thus minimise new entries. Such cooperation in personnel management may take on various degrees of formalisation. At the most basic level, it is simply an exchange of information between head teachers, which is not binding. At this level, offering employment to a teacher who lost his job at another school is considered doing a favour for the head teacher who had to lay him off. In many municipalities, however, such cooperation between schools is coordinated by local municipal administrations. In these cases, head teachers are expected to accept teachers from other schools without exception despite the still informal character of this arrangement.

> So we have this unwritten agreement between all the head teachers […] that if for reasons of natural turnover a position at one school becomes vacant while there is a surplus resulting from those organisational changes at another school, then none of the head teachers will employ an employee from the outside until we have solved our matters here. […] So it really makes our job easier here; it gives some kind of stability, a feeling of stability for the teachers, which we are happy about because there is less conflict (Buciszewo GEM: 291–6)

Such arrangements may also take an institutionalised form, as in the case of Dobroniec, another municipality in our sample. There, as a result of pressures from local teacher union organisations, a formal agreement with the city hall was signed that compelled the municipality to give those teachers who have reached the third level of the teacher career path priority when filling a vacant position in any of the municipal schools.

> In practice, however, the situation is such that in the city, I do not deny it, there are very powerful labour unions, powerful because of their centralised structure, which proposed

> an agreement to the mayor that guarantees employment to tenured teachers should organisational changes occur; for example, when schools were being closed, we were first of all obliged, because of this agreement, to find a job for those teachers. So to be able to keep the agreement we have to practically oblige our head teachers to consult us on every decision they make in matters of employment. So firstly they have to inform us that they have a vacancy. When we have a teacher in such a situation [that he is threatened with redundancy] we propose this teacher [for a vacancy] and our proposition, as a rule, so to speak, obliges the head teacher (Dobroniec GEM: 58–73).

Along the same lines, schools cooperate in situations when teachers face the threat of reduced working hours due to fewer classes or, correspondingly, if there are teaching hours to fill, but they do not amount to a full position. In such cases, which are indeed very common in shrinking municipalities, teachers may work at two or even more facilities and combine working time so as to maintain aggregate full-time employment. In case of such an'aggregated position', as we call it, teachers remain employed by their original school or by the school at which they teach the most hours and are 'lent out' to another school for the remaining hours under one full-time employment contract. As in case of teachers transferring between schools, here municipalities also assist in coordinating the components of such aggregate positions.

To sum up, encouragement of teachers to acquire multiple specialisations and cooperation between schools in personnel matters within a municipality facilitates a personnel reduction strategy based on retirement and hiring freezes. As a result, internal labour markets for teachers emerge, which are isolated from the external labour market both at the school level and at the level of the municipality.

9.3.2.3 Fixed-Term Contracts as a Strategic Response to the Problem of Uncertainty

Apart from the diminishing potential of internal flexibility in the wake of smaller organisational units, decentralisation paired with the marketisation of schools along the lines of new public management also results in higher uncertainty toward future levels of labour demand. In planning their personnel requirements years ahead, head teachers use the population records for their school district to assess future demand. However, predicted student numbers allow only a very rough approximation of personnel needs. We could distinguish three such elements that intervene between population statistics and the demand for teachers. Firstly, allowing parents to choose a school outside of their district creates uncertainty regarding the number of students that can be expected to enrol each year. A head teacher in one of the municipalities in our sample assumes that actual enrolments can deviate by up to 50 % from predictions derived from population statistics.

> You never expect that if population statistics say there are 220 students that 220 will come because it never is like that, so that in most cases 50 per cent come at best. The rest are children that are in the register but, for example, in reality live somewhere else. […] These are also children who decide to attend another school, right? […] So we base our plan, as mentioned, on approximately 50 per cent of what there should be (Goromierz GYM: 345–360)

This is due to inaccurate municipal population records and, far more importantly, parents choosing a school outside of their district. The basic mechanism driving these student flows is school reputation, which is a highly contested issue considering the lack of reliable parameters of school quality. Apart from reputation, avoidance strategies by parents who fear that their child might come under the negative influence of some unfavourable peer group also play a role in the municipal educational markets. A head teacher reported that his school in a small city in Silesia regularly falls victim to these mechanisms:

> This is in part a complex problem. On the one hand, it is demography; on the other hand, according to our education act, parents have the right to choose a school. […] I amunfortunately in such a position that the area where my school is in, let's say, is not one of the best in terms of the social setting. […] Right in my school district there are, firstly, social housing projects, secondly, an orphanage and, thirdly, a residential estate of an infamous coal mine plagued by diverse [social] pathologies. In consequence, there has been a flight […] there has been an outflow of students to the neighbouring school (Sierowice GYM: 264–277).

The second aspect that fuels uncertainty toward the future demand for teachers is the fact that the number of teaching positions does not directly depend on student numbers but on the number of class units. How a given number of students is divided into class units may, however, vary according to the will of municipal officials and the argumentative powers of head teachers because Polish educational law does not define standards on maximum and minimum class sizes. The allocation of students to classes is instead subject to bargaining between head teachers and the municipality. The municipality promotes fewer and larger class units, whereas head teachers tend to opt for more and smaller ones. As the outcome of this bargaining (and hence the number and size of classes) is unknown beforehand, it creates uncertainties in terms of personnel demand. One of the interviewed head teachers accentuated the magnitude of the differences in demand that such shifts in class numbers may produce.

> But if, for example, two, these two classes [an extra class unit in the lower secondary school and an extra class unit in the primary school that the head teacher managed to open in the year of the interview] had not been opened, then, if the mean lies at approximately 28 hours [of instruction] per class […], hence 56 [instruction hours] so then actually 3 teacher positions [would have been obsolete] (Kołowina ZS: 749–753)

The third source of uncertainty is changing school curricula due to both national and municipal educational policies. In particular, additional educational programmes supported by municipalities are a source of uncertainty as municipalities are not compelled to finance them and might withdraw funding in times of financial shortages.

Head teachers respond to this uncertainty mostly by means of fixed-term employment. This allows them to create an externally flexible workforce that can easily be laid off without producing extra costs in the form of redundancy payments but also emotional costs in the form of belying hopes of stable employment. The result of such a policy is a school labour market split into a stable core and an insecure periphery—that is, two separate segments with low employee mobility between them.

> Head teacher (HT): I have employed a lady for the day care centre. I am afraid that [next year] there will be less children in the first class and that this will come to result in, well, unfortunately, next year one teacher will have to switch from primary instruction to day care. Interviewer: And what are you going to do with the person who now works at the day care centre? HT: She is just a beginner.She is on an internship [the first level of the teacher career path with an obligatory fixed-term contract for the first year] and I, while hiring her I told her that such an eventuality may occur, I haven't given her any/because for the time of an internship there is a fixed-term contract; so here, this intern teacher, she is aware/yet it would really be a pity, and I will do everything I can so that she can stay because she is really/ […] I am really happy that at last there is a person who brought so much energy and passion to the job (Kołowina ZS: 378–381; 717–724)

> If there is, for example, an English teacher, and I know that in this school within the next, say, 10 years three English teachers will be needed and he/she is this third person, then he she gets an open-ended contract. If this is, for example, a phisical education teacher and he has/at the moment there are two positions and not even an hour of instruction more than that, then I once again give him a fixed-term contract because I am not sure what [the ministry] will come up with. Will this fourth hour of instruction stay or not? Will there be a fifth?/ so that I do not have to reduce his working hours in the future (Mielcz GYM: 491–498)

Indeed, we do not find fixed-term contracts among the explicit instruments used in managing personnel in schools that are less exposed tofluctuations in demand. The head teachers of these schools employ staff on a fixed-term basis only when they are required to do so (such as for teacher interns) and do not use it strategically. Low fluctuation of demand primarily concerns small rural schools. In rural areas, there are large distances between schools, and therefore even small schools with one unit at each educational level are maintained. In these cases, inaccurate predictions of enrolment numbers do not produce uncertainties since there are no class units to reduce any more. The question is rather at which point the municipality decides to close the school completely. At this point, however, the organisation would cease to exist and personnel considerations would no longer reside with the head teacher. We encountered such a situation in a small rural school in Silesia, which at the time of data collection had only 103 students on six educational levels. Fixed-term contracts play no part in the head teacher's personnel policy.

> Fixed-term contracts, well, I don't know; I rather try to give an open-ended contract as soon as possible, when the person has the necessary tenure [as a rule, completion of a one year internship]. I do not extend fixed-term employment (Mielcz GRU: 115–119)

Secondly, schools enjoy greater certainty in planning for their future demand for teachers when they are less exposed to competition. This is the case in rural areas where the distance to the next facility is considerably longer. In such schools almost 100% of children in the district enrol in their district school.

> We have figures from the municipal register.We get such figures for some years ahead of time as to what the predicted number of children in our district is. Of course, they are not always correct because there is always migration and people change their residence. But in such countryside districts as ours, one can more or less predict the number of children for a given year. As a rule, children stay in their district up until gimnazjum [lower secondary school] (Sierowice ZS: 250–254)

In this rural school in Silesia, the head teacher was able to avoid employing new personnel. The necessary reduction was achieved by teachers retiring and the remaining teachers being reallocated internally—the typical solution to the overstaffing problem in Polish public schools. However, in most cases, this strategy has to be supplemented by external flexibility measures, such as fixed-term contracts. Here, because of the comfortable situation in planning future demand, there was no need for fixed-term employment.

> Well, there were no serious personnel changes, there were only people retiring. […] There were no other changes. In principle, since we employed teachers in 1999, we have already hired in view of the demand to come in the years ahead. Because in 1999 we did a detailed analysis of the future cohorts of children, and we have an outline more or less up to the year 2008, what it would look like, and the prediction has been correct so far, as far as the number of classes is concerned and hence the number of teachers necessary (Sierowice ZS: 97–102)

9.4 Discussion

In this chapter, we looked at personnel policy strategies in schools facing falling enrolment. We were especially interested in personnel reduction strategies since public sector labour markets are widely regarded as being less flexible in the downward adjustment of their workforce than private sector companies. Theoretically we discriminated between two types of explanations of personnel practices. First, we discussed issues concerning corporate culture and group norms and practices. There is a large body of literature on the specificity of employment relations in the public sector that we built on to support the notion of distinctive reactions of public sector organisations to problems of overstaffing. The main concern in this literature is what can be called the 'public sector identity' of personnel managers in public agencies. This identity derives from the perceived specific character of services that are delivered by the state as well as from professional affiliations of most of the personnel managers in the public administration. The beliefs about the specific character of public sector employment are currently being challenged by neoliberal reforms along the lines of new public management. New public management, apart from the deep remodelling of the structures of public service provision, has aimed to change the corporate culture of the public sector in order to induce change in common practices (Hood 1995; Du Gay 1997). Issues of identity, norms and beliefs and their role in shaping personnel policy are addressed by our first hypothesis. We expected personnel reduction strategies to depend on personnel managers' concepts of public employment. Those adhering to the traditional ideals of public administration, public ethos and the public sector as a 'good employer' will be less willing to use external personnel measures such as layoffs in the face of labour oversupply (*internal labour market hypothesis*). The second type of explanation that we studied concerns external constraints upon personnel policy. This type of explanation assumes that personnel managers are maximisers and their objective is organisational efficiency. Personnel policy is then the result of optimisation processes under the

given external constraints of a structural, institutional and market nature. Following this line of thought, we formulated two further hypotheses regarding personnel measures used in Polish schools that are confronted with declining enrolment. On the one hand, we considered the degree of internal flexibility of Polish teachers under the circumstances of (a) a strong subject specificity of teacher training paired with a strong division of labour within schools (according to subjects taught), and (b) the decentralisation of service provision resulting in a fragmentation of personnel administration. We expected that the low degree of internal flexibility of personnel would lead to a greater propensity to use external instruments of personnel management such as layoffs and hiring new personnel (*external labour market hypothesis I*). On the other hand, we addressed uncertainty toward the levels of future demand for teachers resulting from the decentralisation and marketisation of public schools. We expected that high perceived uncertainty would result in restructuring the workforce by substituting fixed-term contracts for stable, long-term stable employment relations (*external labour market hypothesis II*).

Our results show, first of all, a strong support for the first hypothesis. Indeed, among the head teachers of Polish public schools there prevails a strong professional identity, and their views on personnel policy are congruent with the notion of the public sector as a 'good employer'. Accordingly, they display a very strong reluctance to dismiss teaching personnel and go to great lengths to avoid layoffs even in situations of a major teacher oversupply. With a similar degree of certainty the second hypothesis could be rejected. Instead of turning to external personnel policy (hires and fires), head teachers react to a situation of initially low internal flexibility of their teacher workforce by resorting to strategies directed at increasing its functional flexibility as well as by cooperating with other schools in the municipality. As for the third hypothesis, the results are mixed. We could indeed find more fixed-term employment in schools that are exposed to a greater degree of competition and in which the uncertainty toward future levels of personnel demand is also greater. However, fixed-term employment is not considered an equivalent to open-ended employment contracts. Rather, fixed-term contracts act as a buffer that stabilise the internal workforce and shield it from demand fluctuations. Even in schools facing high levels of environmental uncertainty, long-term employment contracts are the dominant mode of employment. In case of uncertainty the organisational labour markets take a form of a dual labour market constituting of an externally flexible periphery and a stable core (*dual labour market hypothesis*).

Apart from their immediate importance for educational policy, our results also contribute to the ongoing debate in industrial relations theories and labour economics as to the role of non-economic elements in shaping the rules of work organisation (Jacoby 1990; Osterman 2011). Whereas neoinstitutional labour economics (Williamson 1994) and personnel economics (Lazear and Shaw 2004) explain the emergence and the shape of the institutionalised rules governing the organisation of work in companies as the outcome of an optimisation process, older institutional approaches in labour economics (Kerr 1994) consider the personnel policy of a firm to be the result of a political struggle between groups within a given organisation that possess different ideas of what the organisational goals should be and what the

legitimate ways of achieving them are. Within the first paradigm, institutions exist because they are efficient. In this respect, neoinstitutionalism, at its heart, is an extension of neoclassical economic theory to labour economics. The second paradigm, by contrast, draws our attention to the non-economic factors that shape the rules of labour organisation, such as the distribution of power between groups and the normative beliefs held by the organisation members. In this perspective, efficiency concerns are only one element among others involved in deciding personnel policy.

We believe that much of the work in the field of labour economics is situated within the first paradigm. Personnel policy is considered a rational response to the functional requirements of personnel recruitment and motivation under external constraints such as environmental uncertainty (Struck 2006). In this chapter, we offer evidence supporting the alternative view. In spite of the structural features of the reformed organisation of educational provision in Poland—decentralisation, short planning cycles, little functional flexibility and the formal possibility of layoffs—head teachers do not engage in renegotiating the rules underlying employment relations towards introducing more external flexibility. Instead of rearranging labour organisation in the form of an external labour market or introducing a new type of labour organisation as a parallel structure, they develop micro-level strategies to enhance internal flexibility, enabling them to stay 'faithful' to the ideal of professional labour organisation in the form of an internal labour market. Our empirical evidence supports a view on work organisation as highly path-dependent and immersed in the social norms of a given occupational field and argues for more complete explanatory models in labour economics that are not limited to a narrow perspective of efficiency.

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Chapter 10
Demographic Challenges and Mentalities: Modes of Reflexivity and Personnel Policy in German and Polish Municipalities

Abstract Chapter 10 analyses the relationships between local demographic change and its perception by local decision makers. It also aims to determine if there are any differences in demography-related interpretation patterns between German and Polish municipalities. We link our analysis of local mentalities with the concept of agency developed by Margaret Archer. Drawing on her Internal Conversation Indicator (ICONI), we formed a Local Authorities' Conversation Index (LACONI) to measure the collective reflexivity of local authorities. Our empirical analysis draws on a representative survey of mayors in 49 East German, 143 West German and 127 Polish municipalities. This represents the first transnational comparative study of demography-related coping strategies at the local level. Since there are no previous results on this topic, we conduct a confirmatory latent profile analysis to assess the reliability of our LACONI. However, we find that only a low congruity exists between the theoretically derived LACONI and the inductively determined latent profiles. Therefore our results should be interpreted carefully. We also find different modes of collective reflexivity toward local demographic changes. This is proven not least by the inductive latent profile analysis. These reflexivity modes also vary between East German, West German and Polish local authorities, but they often do so in an unexpected or counterintuitive manner. However, although the LACONI has not proven fully convincing, the results are nonetheless promising. The reliability of quantitative operationalisation by using LACONI might be improved by modelling it more closely after Archer's ICONI.

10.1 Introduction

Alongside the triad of framing, coping and institutions, mentalities also play a significant role in dealing with demographic change, as has been laid out in our theoretical framework (see Chap. 3). The present chapter examines whether demographic

Authors: Christian Rademacher, Bernadette Jonda

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challenges give rise to specific mentality patterns. Our empirical findings on how local demographic challenges are addressed leave two questions open:

- What is the relation between local demographic change and how it is interpreted by local decision makers?
- Are there any differences in demography-related interpretation patterns between the study regions of East Germany, West Germany and Poland?

Kaufmann (2005) suggests that how demographic change is interpreted will ultimately affect its manageability. He considers complacency to be the dominant discourse in shrinking societies, with their ability to adapt to population decline being hampered by a pessimistic mentality (see Chap. 3).

We link the analysis of these mentalities with the concept of agency developed by Archer (2012c, 2007a, 2003). Archer, however, refers to coping strategies at the individual, not the societal level. This is why Raitelhuber (2008, pp. 22–28) labels Archer's approach and concepts of a similar kind (e.g., Giddens 1981; Sztompka 1994; Emirbayer and Mische 1998) as "human agency concepts".

The question is whether the concept of human agency can be transferred from individual to collective or corporate actors (Scharpf 1997). Raitelhuber (2008) also provides examples of "social agency" (e.g. King 2006; Loyal and Barnes 2001; Barnes 2000). Since there are numerous parallels between individual and corporate actors, we think it is possible to apply Archer's individualistic approach to the social agency of local authorities.

However, the implications of such a conceptual transfer call for explanation before deriving hypotheses from this theoretical framework. This chapter will thus focus on operationalising the social agency of local authorities as well as on the empirical results obtained from our study. Systematically comparing municipalities in West and East Germany with Polish municipalities allows us to make more comprehensive generalisations than research limited to only one of the two nation states would.

10.2 Conceptual Considerations

Archer (2007a, p. 4) defines reflexivity as "the regular exercise of the mental ability, shared by all normal people, to consider themselves in relation to their social contexts and vice versa." "Reflexivity is exercised through people holding internal conversations" (Archer 2007a, p. 63). Archer (2008b) constructs four "modes of reflexivity" by contrasting external efficacy with self-efficacy beliefs (see Tables 10.1 and 10.2).

This raises two questions: (a) How can we apply Archer's concept of human agency (Raitelhuber 2008) to the collective reflexivity of local authorities? (b) Which hypotheses can be derived from our theoretical framework (see Chap. 3)?

(a) From individual reflexivity to the collective reflexivity of municipalities: In transferring Archer's concept of individual reflexivity to the collective reflexivity of local authorities—understood as corporate actors according to Scharpf (1997)—we

Table 10.1 Modes of reflexivity and efficacy beliefs. (Source: Our own tabulation based on Archer 2008b)

		External efficacy	
		low	High
Self-efficacy	Low	fractured reflexives	communicative reflexives
	High	autonomous reflexives	meta-reflexives

Table 10.2 Modes of reflexivity. (Source: Archer 2007a, p. 93)

Communicative reflexives	Those whose internal conversations require completion and confirmation by others before resulting in courses of action
Autonomous reflexives	Those who sustain self-contained internal conversations, leading directly to action
Meta-reflexives	Those who are critically reflexive about their own internal conversations and critical about effective action in society
Fractured reflexives	Those whose internal conversations intensify their distress and disorientation rather than leading to purposeful courses of action

shift from a psychological to a social system of reference (Aderhold and Kranz 2007). This *cannot* be achieved by simply drawing analogies between individual and collective consciousness. Already Durkheim (1919) knew that the two are not made of the same stuff. Hence, we first need to deconstruct each mode of individual reflexivity (see Table 10.2) and then reconstruct it so that it can be applied to local authorities.

This reconstruction draws on recent international and comparative debates on local governance (e.g., Blömker 2010; Kersting et al. 2009). It should be noted that understanding governance in the sense of Archer's concept of agency also "takes 'interactions' as a central concept in which diversity, complexity, and dynamics can be related to each other. […] Such patterns of interactions abound, for example, self- and co-regulation, public-private partnerships, or hierarchical governance" (Kitthananan 2006: 4). We base our analysis on an elaborate typology of local governance (see Lütz 2006, p. 26; Holtkamp 2006, pp. 37–38; Blömker 2010, pp. 53–54). In governance discourse, there are three main types of local governance (Table 10.3) that reflect three of four modes of reflexivity (Archer 2012c, 2007a, 2003).[1] This will be briefly explained in the following.

We associate three of Archer's (2003) modes of reflexivity with three common types of local governance (see header of Table 10.3). The first mode of internal conversation is *communicative reflexivity* (Archer 2003). Communicative-reflexive individuals are those "whose internal conversations need completion and confirmation by others before leading to action" (Archer 2008b, p. 2). "The communicative mode entails 'thought and talk' that is, internal conversation which is completed and confirmed by external dialogue with others, prior to a course of action being initiated" (Archer 2007a, p. 94). Communicative reflexives

[1] Types of local governance that are restricted to providing private goods (market or corporate hierarchy; see Lütz, 2006, p. 26) or that only occur in small populations (community; see Holtkamp, 2006, pp. 37–38 and Blömker, 2010, pp. 53–54 are deliberately excluded.

Table 10.3 Types of local governance; Source: Based on Lütz 2006, p. 26; Blömker 2010, pp. 53–54; Holtkamp 2006, pp. 37–38

	Corporatism (communicative reflexivity)	Hierarchical Governance (autonomous reflexivity)	Policy Networks (meta-reflexivity)
Mode of coordination	intra- und inter-organisational consultation	hierarchical command and control	trust; resource sharing based on reciprocity
Normative basis of membership	formal membership	Citizenship	complementary utilities
Coordination based on	common interests and commitment	Acceptance	perception of a common problem by collective actors
Actors	welfare associations; unions; employer associations; state	principal and agent	collective actors
Exchange relationship between members	asymmetric and non-anonymous; lobbying or selective incentives in exchange for compliance	asymmetric and anonymous; production of collective decisions to be complied with	symmetric and non-anonymous; intangible objects of exchange ('tacit knowledge', intangible goods)
Conflict resolution through	participation on equal terms; package voting	force; monopoly on legitimate violence	discourse; negotiation

mistrust their own deliberative conclusions unless these are supplemented or corroborated by others whom they trust (Archer 2003, p. 211).

In our perspective, *communicative-reflexive local authorities* do not "mistrust their own deliberative conclusions" (Archer 2003: 211) but their ability to produce local welfare. And who are the "others whom they trust" in the field of public utilities? In the "German corporatist welfare regime" (Yerkes et al. 2013: 108), governmental authorities negotiate with welfare associations, unions and employer associations in particular (see Table 10.3).

"The organisational forms in which local government acted in the past, particularly in the field of public utilities (in German called *Daseinsvorsorge*) traditionally exhibited a wide scope of organisational variants comprising ('in house') units inside administration, operative units organisationally and financially closely linked with municipal administration (so called *Eigenbetriebe*) and municipally owned organisationally and financially self-standing organisations (so called *Eigengesellschaften*), most of the latter existing as private law corporations in the variant of 'limited companies' (*Gesellschaft mit beschränkter Haftung*, GmbH) and few in the form of 'joint stock companies' (*Aktiengesellschaften*)" (Wollmann 2013, p. 370).

The corporatist type of governance manages conflict through participation on equal terms and package voting. Furthermore, the relationships between communicative reflexive local authorities and their "significant others" (Mead) are structured in an asymmetric manner (see Table 10.3). Therefore, the type of local governance represented by corporatist welfare regimes is our collective equivalent to what Archer calls the communicative reflexivity mode at the individual level.

Autonomous-reflexive individuals are "the precise opposite in every respect" (Archer 2007a, p. 95) to communicative reflexives. Autonomous-reflexive individuals "complete their internal deliberations alone and act upon them" (Archer 2008b, p. 2). In this sense, *autonomous-reflexive local authorities* also act and interact mainly as independent players. Their interactions with other actors "in the field of public utilities" (Wollmann 2013, p. 370) are marked by relations of hierarchical command and control, thus establishing principal-agent relationships between local authorities and other local actors (see Table 10.3).

In the context of international comparison of public management reforms, Pollitt and Bouckaert (2011) also label this type of bureaucratic and hierarchical local governance as "Neo-Weberian" (e.g., Wollmann 2013; Kitthananan 2006). We deem this Neo-Weberian state to be an organisational equivalent to Archer's autonomous reflexivity mode at the individual level.

In contrast to both communicative reflexives and autonomous reflexives, meta-reflexive individuals "scrutinize and criticize their own inner dialogues, their chosen actions and their social contexts" (Archer 2008b, p. 2). "Meta-reflexivity entails reflecting upon one's own acts of reflexivity. […] Because of this, pronounced meta-reflexives have greater difficulties in defining a satisfying and sustainable modus vivendi for themselves than do markedly communicative or autonomous reflexives" (Archer 2007a, p. 95).

In the same way as meta reflexives are characterised by scrutinising their own actions, norms and values, we find their governance equivalent in *meta-reflexive local authorities* whose modus operandi comes closest to the deliberative and participatory negotiations in policy networks. For coping with social problems to take place under this type of local governance, the collective actors must first perceive the existence of a problem, which then leads to deliberative negotiations among those actors in the policy networks of which they are part. These negotiations finally produce benefits for all the collective actors involved in the respective policy network (see Table 10.3).

The last type is the so-called fractured-reflexive type. "(N)ot everyone can practise one of these three reflexive responses towards the 'logic of opportunity', all of which seek to match life outcomes to subjects' life concerns. These are the fractured reflexives" (Archer 2012c, p. 249). Fractured-reflexive individuals "are (temporarily) unable to conduct purposeful self-talk but, instead, augment their own distress and disorientation" (Archer 2008b, p. 2).

Originally, fractured reflexives were only a residual category in Archer's scheme. This is why Table 10.3 does not include a local governance equivalent for the *fractured mode*. In *Making our Way through the World*, Archer (2007a, p. 96) writes, "The examination of fractured reflexivity is reserved for the next volume". She concludes, "(A)ll fractured subjects are primarily expressive, wounded and regretful, without being able to design a course of action to ameliorate their situation" (Archer 2012c, p. 251).

Fractured-reflexive local authorities see themselves as being in a hopeless and discouraging situation. They are caught in a "downward spiral" (Bartl 2011, p. 97). Gatzweiler and Milbert (2009, p. 444) describe this as a "vicious circle" with job

losses leading to high unemployment and subsequent labour emigration, which adversely affects purchasing power and tax revenue, thereby causing a drop in investment and the loss of even more jobs, and so on.

Some authors (e.g., Gesellensetter 2009; Birg 2006; Hannemann 2003) describe this "downward spiral" as the typical pattern of current urban development in Germany, while other studies (e.g., Franz 2003, 2004) deem it rather an exception. Our own analyses (Rademacher and Bartl 2013; Rademacher 2013; Chap. 11 in this volume) show that the links between demography, public finances and labour markets are far more complex. We believe that perceiving demographic change as a "discouraging challenge" (Reiser and Schnapp 2007, p. 31) is bound to bring forth a mode of collective fractured reflexivity.

(b) Theoretical assumptions on the connections between reflexivity and local demography: Our first hypothesis pertains to the connection between the way in which conflicts are managed in the policy networks that we associate with the meta-reflexivity mode (see Table 10.3, discourse and negotiation) and the potentially lower efficiency of this particular type of governance. We also hold expectations as to which municipalities are most likely to display this type of governance and the respective mode of reflexivity.

1. *Meta-reflexivity hypothesis*: The meta-reflexive mode of deliberative negotiation is always time- and resource-intensive and thus more likely to occur in prospering than in shrinking municipalities.

The following two hypotheses on collective efficacy and social reflexivity have already been presented in our discussion of mentalities in Chap. 3:

2. *Efficacy hypothesis*: A municipality experiencing population decline is more prone to lower self-efficacy beliefs.

Archer (2008b) points out that only two groups are given to the modes of reflexivity associated with low self-efficacy beliefs: fractured reflexives and communicative reflexives (see Table 10.1). When applying this to the three types of local governance (see Table 10.3), the *efficacy hypothesis* suggests that in shrinking municipalities, we will mainly find fractured-reflexive (i.e., "downward spiral") and communicative-reflexive local authorities (i.e., corporatist governance).

According to Kaufmann (2005), population decline, however, does not lower the belief in self-efficacy. Instead, we can expect high levels of complacency resulting from an opposite 'mentality effect'.

3. *Complacency hypothesis*: In shrinking municipalities, the local authorities display high levels of complacency.

This complacency is often accompanied by a conservative reference to traditional patterns of action ("We've always done things this way, and it has always served us well"). We can thus assume that a traditional type of governance prevails in

shrinking municipalities. The corporatist type of governance has a long tradition in the (West) German welfare model (Eichenhofer (2007, pp. 50–55)). According to our conceptual transfer, we associate this type of local governance with the communicative mode. We thus expect that in shrinking West German municipalities there will mainly be communicative-reflexive local authorities. In East Germany and Poland, this kind of structural continuity should be less pronounced on account of their common socialist heritage (1945–1989/90). Drawing on only one form of administrative tradition is therefore less likely in those two regions of our study. We thus expect to find a wider spread across the types of local governance and associated modes of collective reflexivity there.

However, East Germany and Poland differ in terms of both their historical path dependencies and their specific post-socialist transition processes. Hence, their respective modes of reference to traditional patterns of administration are likely to differ as well. During the past two centuries, the development of a distinctive Polish administrative tradition was effectively hampered by the Partitions of Poland (1772–1918) (Izdebski and Kulesza 2004; Izdebski 2001).

4. *Discontinuity hypothesis*: Due to socio-historical discontinuities, Polish municipalities cannot readily draw on traditional patterns of local governance. We therefore expect them to be more widely spread across the four modes of collective reflexivity than are the German municipalities. It may also prove more difficult to assign them to the associated types of local governance.

With the German Democratic Republic's accession to the Federal Republic in 1990, not only the Federal Republic's principle of the welfare state (according to Article 20, Section 1 of the German Basic Law) was transferred to East Germany but also the structural arrangements by which it has been implemented at the local level.

5. *Incorporation hypothesis*: The dominant type of local governance found in West Germany and the associated mode of collective reflexivity are also likely to prevail in East German municipalities.

Previous work has referred to the East German transformation as a process of incorporation whereas the development in Poland has been described as an autonomous transformation (Sackmann 2010, p. 168, 2008). We expect the specific mode of transformation to have the following effect on the degree of autonomous reflexivity in our study regions:

6. *Autonomous transformation hypothesis*: Polish municipalities are more likely to resemble the autonomous-reflexive type of local authorities than German municipalities (Sackmann 2010, 2008).

There is yet another reason for this assumption since both countries have different systems of government, with Germany being a federal state and Poland a unitary one with strong local autonomy. The respective local levels thus assume different

roles and functions in the overall structure of the state (see Chap. 5). Polish municipalities have more powers and greater responsibilities in matters of finances and personnel, which further supports our *autonomous transformation hypothesis*. Hence, we expect the Neo-Weberian pattern and the autonomous reflexive mode associated therewith to be more widespread in Poland than in Germany.

10.3 Applied Methodology

10.3.1 Data Collection Design

In 2010 and 2011, we interviewed 319 mayors of randomly selected German and Polish municipalities with more than 10,000 inhabitants for our study *Demographic Change as a Special Challenge for Municipalities in Germany and Poland* (Jonda 2011). It was the first nationwide survey in Germany since the Bertelsmann Foundation conducted a similar one among German mayors in 2005 (Bertelsmann 2005). In contrast to the exhaustive sample in the Bertelsmann study, however, our stratified sample allows us to apply inferential statistics. Furthermore, our study provides the first-ever comparison between Germany and Poland.

Directly elected mayors are often credited with having a significant role in matters of political coordination and governance (Blömker 2010; Holtkamp 2009). It is thus common practice to take their statements as being representative of the local government as a whole.

A questionnaire was sent to the mayors of altogether 784 randomly selected municipalities, 464 in Germany and 320 in Poland. The response rate was 41.4% for the German mayors ($N=192$; 49 from East Germany and 143 from West Germany) and 39.7% ($N=127$) for the Polish mayors (Jonda 2011), making up the total sample of 319 respondents.

10.3.2 Operationalisation

To measure the four modes of reflexivity, we transferred the Internal Conversation Indicator (ICONI) developed by Archer (2008b; (2007a, p. 93) to our concept of collective reflexivity of local authorities.

Archer's (2008b) ICONI provides a quantitative operationalisation of the four modes of reflexivity by measuring the level of agreement with a set of statements on an open seven-point Likert scale (1 = 'strongly disagree' to 7 = 'strongly agree'). The autonomous, communicative and meta-reflexivity modes are represented by three items each, while as many as four items are used for the fractured reflexivity mode (see Table 10.4).

We translated the ICONI into a specifically designed Local Authorities' Conversation Index (LACONI). To this end, we selected eight of Archer's thirteen items and adapted them to the social world of German and Polish mayors, with only two items being assigned to each mode of collective reflexivity. This equal weighting

Table 10.4 ICONI and LACONI Source: Our own illustration based on Archer 2008b and Jonda 2011

Modes of reflexivity	ICONI items	LACONI items
Communicative reflexivity	Q1: I do daydream about winning the lottery Q5: My only reason for wanting to work is to be able to pay for the things that matter to me Q9: So long as I know those I care about are OK, nothing else really matters to me at all	I1:We imagine how it would be if we suddenly had more funds available I2: We only talk about demographic issues when they have already become very urgent —/—
Autonomous reflexivity	Q2: I think about work a great deal, even when I am away from it. Q6: Being decisive does not come easily to me* Q11: I'm dissatisfied with myself and my way of life—both could be better than they are*	I3: We talk about current demographic issues even outside of official meetings I4: Making decisions on demographic grounds does not come easily to us in our municipality* —/—
Meta-reflexivity	Q3: I dwell long and hard on moral questions Q7: I try to live up to an ideal, even if it costs me a lot to do so Q12: I know that I should play an active role in reducing social injustice	—/— I5: We try to live up to a specific ideal of local government, even if it costs us a lot to do so under the existing demographic conditions I6: We believe that we have to play an active role in reducing injustice caused by demographic developments
Fractured reflexivity	Q4: I blot difficulties out of my mind, rather than trying to think them through Q8: When I consider my problems, I just get overwhelmed by emotion Q10: I just dither, because nothing I do can really make a difference to how things turn out Q13: I feel helpless and powerless to deal with my problems, however hard I try to sort them out	—/— I7: When we talk about demographic problems in our municipality, we get overwhelmed by a sense of despair —/— I8: We feel helpless and powerless to deal with our demographic problems, however hard we try to sort them out

Legend: * inverse answers

of all four modes avoids the ICONI's inherent methodological bias in favour of the fractured mode.

Unlike Archer (2008b), we measure the level of agreement with the eight LACONI items on a four-point Likert scale (1 = 'fully applies' to 4 = 'does not apply at all') to which we added a neutral fifth response category (5 = 'I don't know'). Our initial four-point Likert scale prevents the tendency to choose the middle alternative, a typical phenomenon with odd-numbered scales (Russ-Eft and Preskill 2009, p. 278). The additional 'I don't know' category nevertheless offers a neutral option to all those respondents who cannot or do not want to take a clear stand

and decide for either side of the scale, with the marked difference that this option is positioned at the high end of the scale and not at its centre. We expect this to help increase the validity of the individual responses. By taking the 'I don't know' category to represent the neutral anchor, we were able to recode all answers into a five-point Likert scale. It can thus be assumed that we measured the LACONI with 'quasi'-five-point scales.

This approach, however, also harbours certain risks in terms of the LACONI's reliability. Even though Archer (2007a, pp. 326–336) already changed from five-point to seven-point Likert scales in measuring her ICONI (Archer 2008b), and despite the fact that several studies (e.g. Oaster (1989) consistently indicate "that seven-point scales are likely to show higher reliability than are any other number of options" (Wakita et al. 2012, p. 534), we deemed our 'quasi' five-point scales sufficiently complex to capture the attitudes and action patterns of local authorities. Moreover, and according to a core principle of the Tailored Design Method developed by Dillman et al. (2009) for mail and Internet surveys, we used as few variations as possible in the response categories and measured all attitudes with the same 'quasi'-five-point scales in order to increase the response rate. A maximum response rate was thus given preference over ensuring maximum reliability. However, the consequences this might entail for the LACONI call for a thorough reliability assessment.

In accordance with Archer (2008b, p. 14), four mean indices were computed from the eight 'quasi'-five-point scales. Table 10.4 lists the original ICONI items in the middle column and the corresponding ones that we used directly opposite in the right-hand column.[2]

Both the ICONI and LACONI measure the modes of reflexivity in an indirect manner. The LACONI items operationalising communicative reflexivity take into account that this modus vivendi is characterised by strong external efficacy beliefs and low self-efficacy beliefs (see Table 10.1). Our first item (I1) indicates that mayors representing this particular type hope for cash injections from outside ('deus ex machina principle'). On the other hand, demographic problems are ignored as long as possible (I2).

Mayors who represent autonomous-reflexive local authorities regularly talk about demographic issues (I3). However, this communication occurs within their respective elite networks ("*We* talk about…"). Since the next item (I4) is measured inversely, those mayors state that it is easy for their local authorities to make independent decisions on demographic grounds.

Mayors who represent meta-reflexive local authorities seek to live up to the ideals of demographic policy despite the cost (I5). They are further convinced that their municipalities can take active steps in tackling demographic problems (I6). They thus hold strong beliefs in both self-efficacy and external efficacy, a feature characteristic of the meta-reflexive mode (see Table 10.1).

Mayors who represent the fractured reflexivity mode are desperate in the face of demographic problems (I7) and feel helpless and powerless (I8). They display

[2] For the original German and Polish wording of the LACONI items, see the online appendix.

neither self-efficacy nor external efficacy beliefs (see Table 10.1) and see their municipalities as being caught in 'demographic downward spirals' instead.

Given the differences between Archer's original ICONI and our LACONI in terms of research interest and methodology, at first we could only assume our newly designed instrument to be both valid and reliable. We therefore assessed the LACONI's reliability, first by performing a descriptive item analysis and compiling an inter-item correlation matrix and then by conducting a confirmatory latent profile analysis (Samuelsen and Raczynski 2013, pp. 322–324; Bacher et al. 2010, pp. 373–376). We also used aggregate demographic data from the municipalities that we investigated to test the theoretically derived hypotheses on which the LACONI is based. Its further development and application in complex statistical models, however, must be left to future research.

10.4 Empirical Results in a German-Polish Comparison

10.4.1 Descriptive Analyses of the Individual Items

A frequency count of the responses to each LACONI item reveals discrepancies regarding the ways in which mayors from the different study regions interpret demographic change (see Tables 10.5, 10.6, 10.7). The majority of the West German and East German mayors (see Tables 10.5 and 10.6, respectively) disagree with the items pertaining to both the communicative and fractured modes. Their rejection of the first two items (I1 and I2) leads us to conclude that external efficacy beliefs—such as counting on the higher political levels of the federal state—are rather low among the German local authorities that we investigated. This result corresponds with findings from the mayor survey conducted by the Bertelsmann Foundation (Bertelsmann 2005; Esche et al. 2005). The obvious disagreement with the two items pertaining to the fractured mode (I7 and I8), on the other hand, shows that the German mayors do not share the idea held by some authors (Gesellensetter 2009; Birg 2006; Hannemann 2003) that a 'downward spiral' is the typical pattern of current urban development in Germany (see also Rademacher and Bartl 2013; Bartl 2011).

The German mayors also largely agree with the meta-reflexive mode items (I5 and I6). This suggests that those mayors assume that their own local authorities confront the municipality's demographic situation in a comprehensive and deliberative manner within their policy networks. Together with our results for the communicative mode (I1 and I2), this corroborates findings from the Bertelsmann Foundation's 2005 study indicating that when it comes to dealing with demographic challenges, German municipalities put more trust in themselves than in the federal and state levels (Esche et al. 2005, p. 3).

The West and East German mayors alike also largely agree with the statement that in their local authorities, demography is an issue that is talked about even outside of official meetings (I3). This congruence among the German mayors' responses is a first indicator of the validity of our *incorporation hypothesis* and, moreover, is consistent with findings showing that the patterns of attitudes held by East and

Table 10.5 Frequencies of responses to the LACONI items in West Germany ($N = 143$). (Source: Our own calculations)

	Does not apply at all				*Fully applies*		
Response categories	1	2	3	4	5	no response	Total
Communicative-reflexive local authorities	I1: We imagine how it would be if we suddenly had more funds available						
Frequency	24	61	2	18	9	29	114
Valid %	21.1	53.5	1.8	15.8	7.9	–	100.0
	I2: We only talk about demographic issues when they have already become very urgent						
Frequency	34	69	0	10	3	27	116
Valid %	29.3	59.5	–	8.6	2.6	–	100.0
Autonomous-reflexive local authorities	I3: We talk about current demographic issues even outside of official meetings						
Frequency	1	17	0	71	27	27	116
Valid %	0.9	14.7	–	61.2	23.3	–	100.0
	I4: Making decisions on demographic grounds does not come easily to us in our municipality						
Frequency	19	52	3	34	7	28	115
Valid %	16.5	45.2	2.6	29.6	6.1	–	100.0
Meta-reflexive local authorities	I5: We try to live up to a specific ideal of local authority, even if it costs us a lot to do so under the existing demographic conditions						
Frequency	8	27	8	58	12	29	114
Valid %	7.0	23.7	7.0	51.8	10.5	–	100.0
	I6: We believe that we have to play an active role in reducing injustice caused by demographic developments						
Frequency	3	25	4	55	25	31	112
Valid %	2.7	22.3	3.6	49.1	22.3	–	100.0
Fractured-reflexive local authorities	I7: When we talk about demographic problems in our municipality, we get overwhelmed by a sense of despair						
Frequency	57	52	0	6	0	28	115
Valid %	49.6	45.2	–	4.5	–	–	100.0
	I8: We feel helpless and powerless to deal with our demographic problems, however hard we try to sort them out						
Frequency	79	31	0	4	1	28	115
Valid %	68.7	27.0	–	3.5	0.9	–	100.0

West German local elites have increasingly converged over the past decade (Aderhold et al. 2012). A minimal difference between the East and West German patterns of interpretation only occurs in their opposing responses to one of the two items measuring autonomous reflexivity. Whereas the mayors from East Germany are more likely to admit to their municipality's difficulties in making decisions on demographic grounds, their West German counterparts largely disagree with this statement (I4; inverse measurement).

Just like their German counterparts, the Polish mayors participating in our study expressed agreement with the meta-reflexive mode items (I5 and I6) and strongly disagreed with the statements pertaining to fractured collective reflexivity (I7 and I8). This suggests that they also believe local demographic change to be fully manageable and likewise do *not* perceive their municipality as being caught in a 'down-

Table 10.6 Frequencies of responses to the LACONI items in East Germany ($N=49$). (Source: Our own calculations)

	Does not apply at all				Fully applies		
Response categories	1	2	3	4	5	no response	Total
Communicative-reflexive local authorities	I1: We imagine how it would be if we suddenly had more funds available						
	Frequency	10	15	0	9	8	7	42
	Valid %	23.8	35.7	–	21.4	19.0	–	100.0
	I2: We only talk about demographic issues when they have already become very urgent						
	Frequency	22	17	0	4	1	5	44
	Valid %	50.0	38.6	–	9.1	2.3	–	100.0
Autonomous-relflexive local authorities	I3: We talk about current demographic issues even outside of official meetings						
	Frequency	0	7	1	30	6	5	44
	Valid %	–	15.9	2.3	68.2	13.6	–	100.0
	I4: Making decisions on demographic grounds does not come easily to us in our municipality						
	Frequency	3	12	1	22	6	5	44
	Valid %	6.8	27.3	2.3	50.0	13.6	–	100.0
Meta-reflexive local authorities	I5: We try to live up to a specific ideal of local authority, even if it costs us a lot to do so under the existing demographic conditions						
	Frequency	2	12	2	20	7	6	43
	Valid %	4.7	27.9	4.7	46.5	16.3	–	100.0
	I6: We believe that we have to play an active role in reducing injustice caused by demographic developments						
	Frequency	1	10	3	19	11	5	44
	Valid %	2.3	22.7	6.8	43.2	25.0	–	100.0
Fractured-reflexive local authorities	I 7: When we talk about demographic problems in our municipality, we get overwhelmed by a sense of despair						
	Frequency	20	21	1	2	0	5	44
	Valid %	45.5	47.7	2.3	4.5	–	–	100.0
	I8: We feel helpless and powerless to deal with our demographic problems, however hard we try to sort them out						
	Frequency	26	12	1	3	2	5	44
	Valid %	59.1	27.3	2.3	6.8	4.5	–	100.0

ward spiral' (see Table 10.6). Moreover, the respondents from Poland seem to hold similarly strong self-efficacy beliefs. The autonomous mode items (I3 and I4) were clearly rejected by the Polish mayors.

However, in displaying high levels of agreement with the communicative-mode items (I1 and I2), the Polish mayors differed diametrically from their German colleagues. This means that the mayors from Poland showed similarly strong beliefs in both external efficacy (I1 and I2) and self-efficacy (I3 and I4). This obvious ambivalence provides us with the first indication that the *discontinuity hypothesis* is correct.

Table 10.7 Frequencies of responses to the LACONI items in Poland (N=127). (Source: Our own calculations)

	Does not apply at all				Fully applies		
Response categories	1	2	3	4	5	no response	Total
Communicative-reflexive local authorities	I1: We imagine how it would be if we suddenly had more funds available						
Frequency	3	19	4	29	38	34	93
Valid %	3.2	20.4	4.3	31.2	40.9	–	100.0
	I2: We only talk about demographic issues when they have already become very urgent						
Frequency	12	31	3	41	7	33	94
Valid %	12.8	33.0	3.2	43.6	7.4	–	100.0
Autonomous-reflexive local authorities	I3: We talk about current demographic issues even outside of official meetings						
Frequency	4	24	4	50	11	34	93
Valid %	4.3	25.8	4.3	53.8	11.8	–	100.0
	I4: Making decisions on demographic grounds does not come easily to us in our municipalit						
Frequency	4	20	2	50	17	34	93
Valid %	4.3	21.5	2.2	53.8	18.3	–	100.0
Meta-reflexive local authorities	I5: We try to live up to a specific ideal of local authority, even if it costs us a lot to do so under the existing demographic conditions						
Frequency	4	11	4	49	26	33	94
Valid %	4.3	11.7	4.3	52.1	27.7	–	100.0
	I6: We believe that we have to play an active role in reducing injustice caused by demographic developments						
Frequency	0	4	7	54	29	33	94
Valid %	–	4.3	7.4	57.4	30.9	–	100.0
Fractured-reflexive local authorities	I7: When we talk about demographic problems in our municipality, we get overwhelmed by a sense of despair						
Frequency	20	47	4	15	6	35	92
Valid %	21.7	51.1	4.3	16.3	6.5	–	100.0
	I8: We feel helpless and powerless to deal with our demographic problems, however hard we try to sort them out						
Frequency	16	42	2	24	9	34	93
Valid %	17.2	45.2	2.2	25.8	9.7	–	100.0

10.4.2 Construction of indices and first-time application of the LACONI

Drawing on the ICONI model (Archer 2008b, p. 14), we formed the LACONI by computing four mean scores on the basis of the following formulas:

- communicative-reflexive score = (I1 + I2)/2
- autonomous-reflexive score = (I3 + I4*)/2 (* = inverse measurement)
- meta-reflexive score = (I5 + I6)/2
- fractured-reflexive score = (I7 + I8)/ 2

It was, however, necessary to depart once again from Archer's 2008 model and make four additional methodological decisions before analysing the LACONI:

1. To begin with, a binarily coded filter question (I0) was added to find out whether demographic change is talked about at all in the municipality (0 = 'no'; 1 = 'yes'). If the answer to this first question was negative, the respondents were were not to answer the eight LACONI items. In these local authorities, demography was not an issue that was talked about. We therefore introduced another residual category: *demographically non-reflexive local authorities*. This category was the most frequent one among the Polish communities ($N = 33$), whereas its frequency was moderate in West Germany ($N = 28$) and lowest in East Germany ($N = 5$) (see Table 10.8).
2. If one of the two items that comprised a score was left unanswered (no response), only the valid value was used to represent that score.
3. The mean scores produced identical values on several occasions, in which case it was not possible to unambiguously assign them to one of the modes of reflexivity. Using a 'quasi'-five-point Likert scale (Jonda 2011) instead of the original seven-point scale (Archer 2008b, p. 12) leaves respondents with fewer and thus less nuanced options to choose from. We solved this methodological problem by z-standardising the four mean scores for each of the municipalities. In the case of equal mean values—and only then—the local authority was assigned to a *mode of reflexivity* on the basis of the higher z-score.
4. As has been pointed out above, we avoided the methodological bias in favour of the fractured mode (Archer 2008b, p. 14) by constructing the same number of items for each mode of reflexivity. It is not very convincing that this particular mode, initially a residual category (Archer 2003, 2007a), should a priori represent the standard case (Archer 2008b, p. 14). With respect to the mode of collective reflexivity in dealing with local demographic change, this would come down to a priori accepting the 'demographic downward spiral' as the typical pattern of urban development (as some authors do, e.g., Birg 2006; Gesellensetter 2009; Hannemann 2003). However, empirical findings (Rademacher 2013; Rademacher and Bartl 2013; Bartl 2011; Franz 2003, 2004) instead suggest considering 'downward spirals' as special cases at best. Hence, and in contrast to Archer (2008b), we consider all modes of reflexivity as equals and thereby avoid any built-in bias towards one particular mode.

Based on these calculation and assignment rules, we constructed a categorical variable (LACONI) that can take on one of five possible values and can be analysed by study region (see Table 10.8).

The dominant type of collective reflexivity among the German local authorities is definitely the autonomous mode. Autonomous reflexivity is the most common mode among the West German mayors (39.9 %) and, in terms of its relative share, even more common among East German mayors (51 %). This mode of reflexivity corresponds with our *incorporation hypothesis* in the German context. The larger share of autonomous reflexivity in East Germany can only be explained by a kind of

Table 10.8 LACONI by study region. (Source: Our own calculations)

LACONI	West Germany	East Germany	Poland	Total
Communicative-reflexive local authorities	8 (5.6%)	3 (6.1%)	24 (18.9%)	35 (11.0%)
Autonomous-reflexive local authorities	57 (39.9%)	25 (51.0%)	27 (21.3%)	109 (34.2%)
Meta-reflexive local authorities	47 (32.9%)	14 (28.6%)	32 (25.2%)	93 (29.2%)
Fractured-reflexive local authorities	3 (2.1%)	2 (4.1%)	11 (8.7%)	16 (5.0%)
Demographically non-reflexive local authorities)	28 (19.6%)	5 (10.2%)	33 (26.0%)	66 (20.7%)
Total	143 (100%)	49 (100%)	127 (100%)	319 (100%)
VR	0.601	0.500	0.740	–

a "double transformation" (Diewald and Pollmann-Schult 2009, p. 140): West German institutions were implemented in East Germany while being reformed at the same time. In this way, East Germany became a blueprint for public-sector reforms in West Germany (see Diewald and Pollmann-Schult 2009, p. 140).

In the Polish municipalities under study, meta-reflexivity is the dominant mode of collective reflexivity (with 25.2%). The distribution pattern of demographically non-reflexive local authorities is a further indicator of the validity of our *discontinuity hypothesis*. Demographic change was clearly least discussed among the Polish local authorities (26%). For more than a quarter of the participating Polish mayors, we were unable to assign their local authority to one of the modes of reflexivity, which confirms the second part of the *discontinuity hypothesis*. By contrast, less than one fifth of the participating West German mayors (19.6%) stated that demography was not an issue in their municipalities, and among the East German mayors, merely one in ten did so (10.2%; see Table 10.8). The phenomenon that demographic change is less discussed at the local level in West Germany and Poland than it is in East Germany is also consistent with our previous findings (Rademacher 2013; Kopycka 2013; Bartl 2011).

Instead of comparing the variations between the individual study regions graphically, we used the variation ratio (VR), a simple measure of qualitative variation.[3] Here it becomes evident that, in line with the *discontinuity hypothesis*, the qualitative variation in the modes of reflexivity is most significant in Poland (VR = 0.74). The variation across all five categories is least pronounced in East Germany (VR = 0.5) and fairly moderate in West Germany (VR = 0.601; see Table 10.8).

A first simple way of testing the quality of the LACONI is to take a close look at the inter-item correlations (see Table 10.9). Although we mainly find medium-strength correlations, it is nevertheless obvious that the autonomous mode items

[3] VR is defined in regard to each mode as the proportion of cases that do not show that specific mode, "with larger values indicating greater dispersion on the variable: variation ratio = 1 - (f_{mode}/N), where f_{mode} is the frequency of the modal category and N is the total number of cases" (Lewis-Beck et al. 2004, p. 1178).

Table 10.9 Inter-item correlations of LACONI items. Source: Our own calculations

		Communicative-reflexive local authorities		Autonomous-reflexive local authorities		Meta-reflexive local authorities		Fractured-reflexive local authorities	
		I1	I2	I3	I4	I5	I6	I7	I8
Communicative- reflexive local authorities	I1	–							
	I2	0.284**	–						
Autonomous-reflexive local authorities	I3	−0.128*	−0.297**	–					
	I4	0.277**	0.300**	−0.021	–				
Meta- reflexive local authorities	I5	0.225**	0.120	0.083	0.149*	–			
	I6	0.169	0.004	0.195**	0.095	0.322**	–		
Fractured-reflexive local authorities	I7	0.264	0.412**	−0.065	0.395**	0.148*	0.186**	–	
	I8	0.256	0.397**	−0.113	0.420**	0.145	0.087	0.695**	–

* $\alpha < 0.05$, ** $\alpha < 0.01$, not significant $\alpha \geq 0.05$)

(I3 and I4, $r = -0.021$) are less strongly correlated than the other three groups (communicative mode: I1 and I2, $r = 0.284^{**}$; meta-reflexive mode: I5 and I6, $r = 0.322^{**}$; fractured mode: I7 and I8, $r = 0.695^{**}$).

LACONI item 3 ("We talk about current demographic issues even outside of official meetings") proves relatively independent of the other measures, except for a weak correlation with item 6 ("We believe that we have to play an active role in reducing injustice caused by demographic developments"; $r = 0.195$). The second autonomous mode item (I4 "Making decisions on demographic grounds does not come easily to us in our municipality"), on the other hand, seems to pair fairly well with either one of the fractured mode items, both empirically and in terms of content (I7, $r = 0.395^{**}$ and I8, $r = 0.420^{**}$).

Item 2 ("We only talk about demographic issues when they have already become very urgent") also correlates more strongly with the fractured mode items (I7, $r = 0.412^{**}$ and I8, $r = 0.397^{**}$) than with its theoretical partner, the communicative mode item I1 ("We imagine how it would be if we suddenly had more funds available"). However, contrary to the negligibly weak correlation between the autonomous mode items I3 and I4 ($r = -0.021$), the communicative mode items I1 and I2 ($r = 0.284^{**}$) correlate at least moderately with one another, and significantly so in the predicted manner. Although these results for I1 and I2 might also call for redesigning this particular section of the LACONI, we will not discuss this aspect any further here since it is less obviously problematic than the autonomous mode items are.

Given their rather weak pair correlation (I3 and I4, $r = -0.021$), reconsidering the LACONI design for future applications is strongly advised. We recommend

returning more closely to the ICONI (Archer 2008b) model, specifically by increasing the number of items per mode from two to three. The wording of the current item 4 could directly be used to create a new third indicator when reconstructing the fractured mode category. Moreover, the five-point Likert scales should be replaced by seven-point scales to ensure a higher variance in responses.

However, prior to any further testing of hypotheses, we first have to conduct a confirmatory latent profile analysis to assess the LACONI's reliability.

10.4.3 How Reliable is the LACONI?

Just like Archer's modes of (individual) reflexivity cannot be observed directly but rely on indirect measurement via the ICONI (Archer 2008b), the LACONI provides a tool with which to indirectly operationalise the type of collective reflexivity displayed by municipalities in dealing with demographic change. In a methodological perspective, we are thus on the terrain of generalised latent variable modelling (Skrondal and Rabe-Hesketh 2004). We used a confirmatory latent profile analysis to assess the LACONI's reliability because the manifest indicators are continuous and the latent variable (LACONI) is discrete.[4]

"Skrondal and Rabe-Hesketh (2004) show that all four cases of latent variable modelling are simply special cases of a general modelling framework that they refer to as 'generalized linear latent and mixed models' (GLLAMM). […] They also provide software for estimating all the models using this general framework" (Biemer 2011, p. 119).

For that reason, we compute our confirmatiory latent profile analysis using the *gllamm* command in Stata as suggested by Skrondal and Rabe-Hesketh (2004, p. 249).

"Finite mixture models have the same structure as latent class [and profile] models. For continuous responses and counts, these models are often used when there is only one response per unit to obtain a flexible model for the probability distribution" (Skrondal and Rabe-Hesketh 2004, p. 75). The *GLLAMM Manual* (Rabe-Hesketh et al. 2004, p. 51) states that to write our model as a finite mixture model and as a GLLAMM, we constrain all variances to be equal ($\sigma^2=\sigma_{kj}^2$). "Conditional on η_i, y_i has a normal distribution with variance σ^2 […] and η_i is a discrete latent variable" (Rabe-Hesketh et al. 2004, p. 51)—with regard to Archer's (2012c) *modes of reflexivity*, this would be a latent variable with four values, $e_1=\mu_1-\mu$, $e_2=\mu_2-\mu$, $e_3=\mu_3-\mu$ and $e_4=\mu_4-\mu$ where μ is the overall mean. "We need to specify the 'level 2 units' in *gllamm*, i.e., the units *i* over which η_i varies" (Rabe-Hesketh et al. 2004, p. 52). From this follows that to prove the reliability of our theory-based model, an LPA of a finite mixture model with Stata *gllamm* should simulate a four-profile solution.

Bacher et al. (2010, pp. 362–366) suggest different measures for determining the number of profiles. On the one hand, based on the percentage change compared to the previous estimation ($PV0_K$), the three-profile solution is better since $PV0_K$

[4] For the definition and meaning of latent profile analysis, among other cases of latent variable modelling, see the online appendix.

initially decreases when we move from the three-profile to the four-profile solution (Bacher et al. 2010, p. 366). On the other hand, based on the Aikaike information criterion (AIC_K), the Bayesian information criterion (BIC_K) and the consistent Aikaike information criterion ($CAIC_K$), the five-profile solution is better since it has the lowest values for these statistics (ibid.). Solutions with six and more profiles do not converge and cannot be estimated. However no measure of fit determines the theoretically expected four-profile solution.

We can thus assume that the reliability of the LACONI index, as derived from Archer's 2008 ICONI, is rather limited—as the inter-item correlations have already indicated (see Table 10.9).

The five-profile solution apparently best matches the empirical data in a statistical sense, but it is inconsistent with the theoretically expected number of profiles, which would be four. We nevertheless use the four-profile solution to compare the theoretically derived LACONI with a profile solution that was determined by empirical means (see Table 10.10). Albeit suboptimal, a solution with four profiles is the only one that sufficiently reflects our theoretical considerations. Table 10.11 gives the key parameters of this four-profile solution.

The probabilities π indicate the proportions by which the 245 valid measurements are distributed across the four profiles. Whereas profile 1 comprises only 1.2 % of the local authorities investigated ($\pi_1 = 0.0122$), the 13.4 % that belong to profile 3 represent a considerably larger share ($\pi_3 = 0.1336$); the vast majority, however, fall into profiles 4 and 2, with 40.6 and 44.8 % respectively ($\pi_4 = 0.4064$; $\pi_2 = 0.4478$). The four initial modes of collective reflexivity—that is, without the residual category demographically non-reflexive local authorities ($N = 66$; see Table 10.8)—incidentally show a similar pattern of distribution (communicative-reflexive local authorities: $N = 35$ [13.8 %], autontomous-reflexive local authorities: $N = 109$ [43.1 %], meta-reflexive local authorities: $N = 93$ [36.8 %], fractured-reflexive local authorities: $N = 16$ [6.3 %]). This might lead us to assume that the four-profile solution corresponds to the theoretically derived modes of collective reflexivity. Verifying this assumption is relatively easy; cross-tabulation of the theoretically predicted LACONI values with the each of the empirically determined profile memberships will suffice.

For this purpose, we have added a fifth profile (profile 5) as a separate residual category comprising all 74 cases with at least one missing value. This new profile category is largely consistent with the demographically non-reflexive local authorities. There are, however, some discrepancies between these two, as already indicated by the different numbers of cases (see Table 10.12).

As illustrated in Table 10.12, the theoretically derived LACONI and the empirically determined profiles show only low n-reflexive local authorities residual category. The statistical association between these two categoricongruity. This congruity is mostly based on the convergence of profile 5 and the demographically nocal variables is moderate as well (Cramér's $V = 0.5087$). This is another indicator of a lower reliability of the LACONI index. Greater reliability would have been reflected in higher correlations between the theoretically predicted and the empirically determined measures.

Table 10.10 Results of latent profile analysis ($N=245$). (Source: Our own calculations)

Profiles K	Iterations	Log likelihood LL_K	$PV0_K$	PV_K	AIC_K	BIC_K	$CAIC_K$
1	–	−438.12	–	–	922.24	931.19	908.19
2	5	−430.13	1.82	1.82	938.26	953.44	914.44
3	12	−343.27	21.65	19.83	796.54	817.94	762.94
4	8	−340.77	22.22	0.57	823.54	851.17	780.17
5	14	−196.28	55.20	32.98	566.56	600.42	513.42
6	>200	No convergence (after 500 iterations!)					

Legend: PV0K: percentage change compared to the null model; PV0K = (1 − LLK/LL1); PVK: percentage change compared to the previous estimation; PVK = PV0K − PV0(K − 1); AIC: Aikaike information criterion; AICK = −2(LLK − mK), with mK being the number of estimated parameters; BIC: Bayesian information criterion; BICK = −2 LLK + mK log n; CAIC: consistent Aikaike information criterion; CAICK = −2 LLK + mK (log n + 1) (see Bacher et al. 2010, pp. 363–365)

Table 10.11 Parameters of the four-profile solution (N = 245). (Source: Our own calculations)

	π	e	$\log(OR_1)$
Profile 1	0.0122	5.827** (0.243)	−3.502** (0.588)
Profile 2	0.4478	1.368** (0.099)	0.097 (0.148)
Profile 3	0.1336	−1.900** (0.139)	−1.113** (0.296)
Profile 4	0.4064	−1.058** (0.087)	–

* $\alpha<0.05$, ** $\alpha<0.01$, not significant $\alpha\geq0.01$)

10.4.4 Statistical Associations Between Demography and the Modes of Collective Reflexivity

Finally, we will examine our initial assumptions regarding the connections between demographic change and collective reflexivity, even though the LACONI index proved only insufficiently reliable. Given the LACONI's modest level of reliability, we have decided to set aside complex multinomial models and limit ourselves to merely describing the empirical connections.

The demographic development in the municipalities under investigation was identified based on the 1996 and 2011 population figures as given in the official municipal statistics for Poland and Germany. These figures are the earliest and latest data available for a German-Polish comparison, with the 1996 figures missing for 48 out of the 319 sample cases (West Germany: 23; East Germany: 1; Poland: 24) as a result of municipal restructuring.

Following the example set by the Bertelsmann Foundation study (Bertelsmann 2014, p. 4), we determined the respective rates of population development (calculated as population_2011 — population_1996)/population_1996 *100) for the last 15 years preceding our mayor survey (Jonda 2011). The rates were then grouped into three types of demographic change by using a field-tested model (Rademacher and Bartl 2013) according to which municipalities with a population development rate of up to −5% were classified as *shrinking*, municipalities with a population

Table 10.12 Cross-tabulation, LACONI * profiles. (Source: Our own calculations)

LACONI	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5	Total
Communicative-reflexive local authorities	0	30	1	2	2	35
Autonomous-reflexive local authorities	0	38	19	47	5	109
Meta-reflexive local authorities	2	33	15	43	0	93
Fractured-reflexive local authorities	1	9	0	5	1	16
Demographically non-reflexive local authorities	0	0	0	0	66	66
Total	3	110	35	97	74	319

development rate of +5% and higher were classified as *growing* and all those in between, ranging from −5 to under +5%, were classified as *stagnating*. We tested our assumptions regarding the distribution of the modes of collective reflexivity, as outlined in Sec. 2, by cross-tabulating the LACONI and the three types of demographic change by study region (see Table 10.13).

The assumption that the time- and resource-intensive meta-reflexive mode is rather unlikely to be found in shrinking municipalities (*meta-reflexivity hypothesis*) is confirmed for all three study regions. Only 15.4% ($N=4$) of the shrinking municipalities located in West Germany adhere to this particular mode of collective reflexivity, whereas 25.6% ($N=10$) of the shrinking municipalities in East Germany and 17.9% ($N=5$) of those in Poland fall into the meta-reflexive local authorities category.

Neither the LACONI nor the available data support the assumptions that shrinking municipalities are more prone to low self-efficacy beliefs (*efficacy hypothesis*) or more likely to show high levels of complacency (*complacency hypothesis*). The modes of collective reflexivity associated with these two hypotheses (communicative and fractured mode) are, in fact, the ones least represented across all three study regions. Not a single one of the shrinking West German municipalities belongs to either one of those modes of reflexivity. According to the LACONI, only 7.7% ($N=3$) of the shrinking East German municipalities have communicative-reflexive local authorities, whereas the fractured mode is present in only one shrinking municipality in East Germany (2.6%) and another one in Poland (3.6%). The only exception is the relatively higher share of communicative-reflexive local authorities among the Polish shrinking municipalities (28.6%, $N=8$). However, since the share is about the same among the growing municipalities (24%, $N=6$), the *complacency hypothesis* is far from being confirmed for the Polish context.

We can further state that in West Germany, autonomous-reflexive local authorities are the most frequent type among the 26 shrinking municipalities (73.1%, $N=19$), whereas the meta-reflexive mode is predominant in both the stagnating (35.9%) and the growing (46.7%) municipalities. In East Germany, on the other hand, the autonomous mode is the most frequent form of collective reflexivity found in both the shrinking (56.4%, $N=22$) and stagnating (66.7%, $N=2$) municipalities, whereas the six growing ones are characterised by the meta-reflexive mode (66.7%, $N=4$).

Table 10.13 LACONI * types of demographic change by study region. (Source: Our own calculations)

Study regions	LACONI	Types of demographic change Municipalities that are…			Total
		…shrinking	…stagnating	…growing	
West Germany	Communicative-reflexive local authorities	–	3 (4.7%)	2 (6.7%)	5 (4.2%)
	Autonomous-reflexive local authorities	19 (73.1%)	19 (29.7%)	11 (36.7%)	49 (40.8%)
	Meta-reflexive local authorities	4 (15.4%)	23 (35.9%)	14 (46.7%)	41 (34.2%)
	Fractured-reflexive local authorities	–	1 (1.6%)	–	1 (0.8%)
	Demographically non-reflexive local authorities	3 (11.5%)	18 (28.1%)	3 (10.0%)	24 (20.0%)
	West Germany total	26 (100.0%)	64 (100.0%)	30 (100.0%)	120 (100.0%)
East Germany	Communicative-reflexive local authorities	3 (7.7%)	–	–	3 (6.3%)
	Autonomous-reflexive local authorities	22 (56.4%)	2 (66.7%)	–	24 (50.0%)
	Meta-reflexive local authorities	10 (25.6%)	–	4 (66.7%)	14 (29.2%)
	Fractured-reflexive local authorities	1 (2.6%)	–	1 (16.7%)	2 (4.2%)
	Demographically non-reflexive local authorities	3 (7.7%)	1 (33.3%)	1 (16.7%)	5 (10.4%)
	East Germany total	39 (100.0%)	3 (100.0%)	6 (100.0%)	48 (100.0%)
Poland	Communicative-reflexive local authorities	8 (28.6%)	4 (8.0%)	6 (24.0%)	18 (17.5%)
	Autonomous-reflexive local authorities	7 (25.0%)	11 (22.0%)	4 (16.0%)	22 (21.4%)
	Meta-reflexive local authorities	5 (17.9%)	16 (32.0%)	6 (24.0%)	27 (26.2%)
	Fractured-reflexive local authorities	1 (3.6%)	5 (10.0%)	3 (12.0%)	9 (8.7%)
	Demographically non-reflexive local authorities	7 (25.0%)	14 (28.0%)	6 (24.0%)	27 (26.2%)
	Poland total	28 (100.0%)	50 (100.0%)	25 (100.0%)	103 (100.0%)

In Poland, however, it is almost impossible to determine the dominant mode of collective reflexivity for each type of demographic change, which is well in line with the *discontinuity hypothesis*. The fact that our residual category of demographically non-reflexive local authorities always comprises a similar or even the same number of cases as the most frequent modal category makes it particularly difficult to unequivocally assign the municipalities to one of the four modes of collective reflexivity.

We can also test the validity of the *discontinuity hypothesis* by assessing if and how the extent to which the modes of collective reflexivity can be predicted from demographic patterns differs by study region. For this purpose, we determined the respective asymmetric λ values (Goodman and Kruskal 1954). This measure of proportional reduction in error (PRE) is highest for East Germany ($\lambda = 0.167$), meaning that the predictability of the LACONI modes of reflexivity is increased by 16.7% when the marginal distribution of the demographic patterns (i.e., the three types of demographic change) is known. In West Germany, this measure stands at 9.9% ($\lambda = 0.099$) only. And, as was expected according to the *discontinuity hypothesis*, predicting the LACONI modes of collective reflexivity from the types of demographic change was least feasible for the Polish municipalities (3.9%, $\lambda = 0.039$). We may take this result as yet another descriptive indicator supporting the *discontinuity hypothesis*. Symmetric measures of association between the LACONI categories and the three demographic patterns further confirm this country sequence (East Germany: Cramér's $V = 0.364$; West Germany: Cramér's $V = 0.287$; Poland: Cramér's $V = 0.203$).

10.5 Conclusion

It has been our aim to investigate the mentalities and patterns of interpretation involved in dealing with demographic change quantitatively by means of an index derived from Archer's 2008 ICONI and thus to go beyond the usual approaches, such as participant observation and qualitative interviews (e.g., Kopycka 2013; Bartl 2011). Although the newly designed LACONI has not proven fully convincing, the results are nonetheless promising, especially when taking into account that it is the first attempt of its kind and that it has been applied in a transnational German-Polish comparison. The rather modest level of reliability suggests that our LACONI index still lacks sufficient sophistication, but we are nevertheless convinced that its full potential has yet to be tapped. We hope to also improve the LACONI's reliability by modelling it even more closely after Archer's ICONI, for example, by increasing the number of indicators per mode of reflexivity from two to three items or by using a seven-point instead of a four- or five-point Likert scale. The latter should be particularly beneficial since Wakita et al. (2012, p. 534) show that seven-point Likert scales have the highest test-retest reliability.

We found descriptive evidence in support of our initial assumptions that the time- and resource-intensive meta-reflexive mode is less frequent in shrinking municipalities (*meta-reflexivity hypothesis*) and that municipalities in Poland show a wider spread across the different modes of collective reflexivity due to discontinuities in socio-historical development (*discontinuity hypothesis*).

Two other theoretically predicted effects of demographic decline on local mentalities, however, could not be confirmed by the empirical data that we were able to generate with our research instrument: there is neither evidence for the assumption that shrinking municipalities are more prone to low self-efficacy beliefs (*self-efficacy hypothesis*) nor for the one that they show high levels of complacency (*complacency hypothesis*). The findings also do not substantiate the suggestion that the autonomous transformation of Poland (Sackmann 2010) has resulted in higher levels of autonomous collective reflexivity among Polish local authorities (*autonomous transformation hypothesis*). Quite to the contrary, the autonomous mode is actually most prevalent in German municipalities, particularly in shrinking regions. Finally, the assumption that 'transformation by incorporation' (Sackmann 2010) has led East German municipalities to adopt West German mentality patterns and coping strategies (*incorporation hypothesis*) is more plausible conceptually than it is evident empirically.

In line with our theoretical and conceptual considerations, our analyses show that collective meta-reflexivity and the deliberative negotiations in policy networks that we associated therewith (see Table 10.3) are rarely found in shrinking municipalities. Meta-reflexive deliberative negotiations are so costly in terms of both time and resources that shrinking municipalities can hardly afford to engage in this taxing modus operandi, irrespective of the political power structure (federal state in Germany vs. unitary state in Poland) or mode of transformation (incorporation in Germany vs. autonomous transformation in Poland; Sackmann 2008, 2010).

As for Germany, we rather find hierarchical forms of governance to be the dominant mode at the local level (Lütz 2006, p. 26; Holtkamp 2006, pp. 37–38; Blömker 2010, pp. 53–54), which also coincides with the typical German pattern of new public management discourse to treat municipalities as corporations (e.g., Holtkamp et al. 2006). In Poland, on the other hand, there seems to be no clearly dominant mode of collective reflexivity and no clearly associated type of local governance (see Table 10.3). This holds for shrinking, growing and stagnating municipalities alike and is thus independent of the actual demographic development. We might explain this observation with the specific historical path dependencies, most notably resulting from the Partitions of Poland (1772–1918), which hampered the development of a distinctive Polish constitutional and administrative tradition (Izdebski and Kulesza 2004; Izdebski 2001).

Altogether, our findings are therefore rather ambivalent. Even though the majority of our initial hypotheses have not been confirmed, our LACONI index is the first quantitative instrument of its kind that, upon further refinement, is well suited for investigating the patterns of interpretation and collective reflexivity held by local authorities, especially in the context of comprehensive comparative regional studies. Yet this can only be achieved through improving and refining the existing instrument in terms of both methodology and content.

Electronic Supplementary Material

The online version of this chapter (doi:10.1007/978-3-319-10301-3_10) contains supplementary material, which is available to authorized users. Caption of the data object (Excelfiles.zip 711 kb)

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Chapter 11
The Consequences of Coping with Demographic Change for Fiscal Capacity of and Unemployment in German Municipalities

Abstract Chapter 11 outlines whether and, if so, how municipal demographic policy affects the fiscal capacity and the local labour market of German municipalities. Both aspects form the economic foundation of good local governance. The conceptual framework refers to Hartmut Esser's model of frame selection, which belongs to the family of dual-process theories. It integrates explanatory and interpretive sociological paradigms and operationalises a theoretical triad of framing, coping and institution on the basis of a comparative analysis using sequential regression models and data obtained from a secondary analysis of a dataset that links data from a German mayor survey by the Bertelsmann Foundation in 2005 with municipal fiscal and labour market data from its Community Guide. Contrary to common assumptions, there is little empirical evidence that demographic change has direct effects on municipal budgets or local labour markets. Our multiple regression models instead pinpoint weak correlations between demographic and economic indicators. Structural discrepancies between East and West Germany remain the most influential factor, even decades after reunification. Furthermore, municipalities that actively engage in demographic policy have greater economic success. Our results according to Esser's model of frame selection are mixed. On the one hand, there is no evidence that an appropriate frame always yields positive payoffs. On the other hand, municipalities that have family policy routines have greater economic success. This means that, when it comes to coping, local institutions, routines and local population policies matter more than demographic change or an appropriate demographic framing by local decision makers!

11.1 Introduction: Does Local Population Policy Matter?

In the previous chapters, we presented our empirical findings on local perceptions of demographic issues (Chap. 5), the responses of German and Polish municipalities in personnel policy (Chap. 6), the impact of expansion strategies on the Polish education system (Chap. 7) compared to the situation in East Germany (Chap. 8),

Author: Christian Rademacher

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and personnel political reactions in Polish schools (Chap. 9). We then tested the applicability of Archer's concept of agency to collective reflexivity in matters of demographic change (Chap. 10). The remaining task is to systematically link our theoretical concepts with the qualitative and quantitative results of our analyses.

For this purpose, we will pursue the question of whether and, if so, how "municipal demographic policy" (Wiechmann and Kißler 2010–our translation from German) affects the fiscal capacity of German municipalities and their local labour markets. Both of these aspects form the economic foundations for shaping the local quality of life. In international debates on good local governance (Nuissl and Heinrichs 2011; Blömker 2010; Kersting et al. 2009) and local quality of life (cf. Saliterer 2009; Hill 2002; Pröhl 2002), the quality of public service provision is considered to be a crucial factor. This is why research on local demographic development has also turned its focus to municipal finances and local labour markets (cf. Schmidt 2006; Gatzweiler and Milbert 2009; Milbert 2011). Local economic conditions and the principle of subsidiarity (according to Art. 23 of Germany's Basic Law) also play a major role in the self-perception of German municipalities faced with demographic change. In a representative survey by the Bertelsmann Stiftung (2005), 648 mayors stated that their municipalities are in a better position than the federal or state level to address issues related to demographic change (see also Backes and Amrhein 2011, p. 243; Bartl 2011, p. 33; Bertelsmann Stiftung 2005; Esche et al. 2005).

Demographisation is a widespread pattern of argumentation in the German-speaking discourse on demography that makes a direct causal connection between social problems and demographic change (Chap. 3; see also Bartl 2011; Barlösius and Schiek 2007). The implicit assumption frequently underlying this view is that demographic change is virtually an inevitable fate with which territorial authorities are faced. In this perspective, demography is reinterpreted in terms of a "second human nature" (Sackmann and Bartl 2008)—a perspective that is not limited to municipal practice but is shared by academic observation of such practice as well (for overviews with additional references, see, e.g., Rademacher 2013; Bartl 2011; Klundt 2008; Siedhoff 2008). This holistic worldview renders municipal agency completely irrelevant. If demographic change is perceived to be an inevitable destiny entailing mostly negative consequences that are preferably to be avoided, then local demographic policies become irrelevant since they cannot be expected to prevent the anticipated consequences from occurring, let alone change things for the better. Data collection and analyses on local political change are therefore often limited to aggregate data only (Milbert 2011; Gatzweiler and Milbert 2009; Mäding 2008a).

The basic premise underlying such studies (*demographisation hypothesis*) that demographic changes could provide a (complete) explanation for social problems (Sackmann and Bartl 2008; Barlösius and Schiek 2007) not only conflicts with our research question, but also with our theoretical triad of framing, coping and institution (Chap. 3). As opposed to *demographisation framing*, we assume that local

population changes have no direct social impact but that the outcomes are the result of three mediating factors:

1. local political decision makers' perceptions of local demographic development (*framing hypothesis*);
2. their coping strategies in the form of their specific "local demographic policy" (Wiechmann and Kißler 2010 – our translation), which is to say that local population policy matters (*policy hypothesis*);
3. the specific institutional arrangements and routines that govern the policy area in the respective municipality (*institutionalisation hypothesis*).

In this chapter, we attempt to falsify the *demographisation hypothesis* as well as our three other assumptions that stand in contrast to it—the framing, policy and institutionalisation hypotheses—on the basis of a comparative analysis using sequential regression models (Clogg et al. 1995) and data obtained from a secondary analysis of a record-linkage dataset that links data from the Bertelsmann mayor survey (Bertelsmann Stiftung 2005; Esche et al. 2005) with municipal fiscal and labour market data from the Community Guide (*Wegweiser Kommune*) database (Schmidt 2006).

Owing to its frequent use (e.g., in Rademacher and Bartl 2013; Backes and Amrhein 2011; Rademacher 2013; Bartl 2011; Gerlach et al. 2010; Schultz et al. 2009; Dienel 2007), the Bertelsmann mayor survey (Bertelsmann Stiftung 2005; Esche et al. 2005) has become the standard source of data on the framing of and strategies of coping with demographic change and its consequences at the local level. Since data linkage provides a much more comprehensive understandingof a given situation (cf. Schnell et al. 2011, p. 247; National Community Services Information Management Group 2004, p. 4), combining data linkage and secondary analysis enhances the informational value of our analysis.

We perceive the model of frame selection (MFS) to represent a theory that enables us to construct our theoretical triad (framing, coping and institution; Chap. 3) and ground our three hypotheses theoretically. The MFS features two crucial advantages: (1) it claims to provide a general explanatory model of social action (Esser 2010b; Kroneberg 2011), and (2) it has already been introduced into demographic discourse in the context of the value-of-children approach (cf. Nauck 2007).

However, the MFS is similar to Archer's (2012) concept of agency in that it also builds on individuals' cognitive processing of information, so that we must first tailor the model to fit the processes that govern the behaviour of corporate actors (in our case, German municipalities). Moreover, the MFS so far has only been mentioned (in Chap. 3) but not yet elaborated in detail. The next section will therefore provide a detailed account of how we have applied this model of individual action to municipalities' collective coping with demographic change (for a more comprehensive discussion, see Rademacher 2013, pp. 110–158) before we move on to our methodology, the operationalisation of our four hypotheses, and the presentation and interpretation of our results.

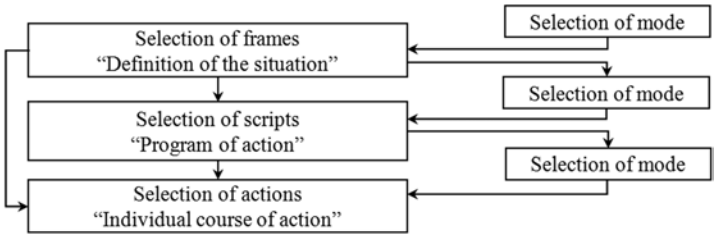

Fig. 11.1 The selection processes in the MFS. (Source: Our own illustration based on Kroneberg 2011, p. 128)

11.2 Theoretical Concept: The Model of Frame Selection (MFS)

The model of frame selection involves three different selection processes, just as our triad of framing, coping and institution does (Fig. 11.1). The MFS makes three crucial assumptions:

1. "For actors to be capable of action, they must develop some kind of interpretation of their situation" (Kroneberg 2011, p. 12– our translation).
2. Behaviour is always governed by variable rationality (ibid.). Drawing on social-psychological dual-mode theories (cf. Kahneman 2011; Stanovich and West 2000; Chaiken and Trope 1999; Fazio 1990), the model distinguishes two modes of processing information: an automatic-spontaneous mode (AS mode) and a reflexive-calculating mode (RC mode) (for a critical assessment, see Lindenberg 2009, pp. 54–55 and Mayerl 2009, pp. 220–230). Any selection of a frame, script or action is preceded by the selection of a mode of information processing.
3. Both the definition of the situation and the type of variable rationality are related to one another by a process of pattern recognition (see Esser 2010b, pp. 52–55).

In the following, we will relate each of these basic assumptions to the three selection processes of the MFS and show by way of example how they can be linked to the subject matter in question, namely, municipalities experiencing demographic change.

11.2.1 Frame Selection and the Definition of the Situation

The MFS assumes that action of any kind presupposes a definition of the situation, on the basis of which actors attach mental dispositions to objects in their environment. The objects then act as "triggers of the respective dispositions" (Esser 2010b, p. 53—our translation). Framing is at the heart of the theoretical model since the term not only lends its name to the model but also represents the first stage of the selection process and its first basic assumption.

The concept of framing that underlies the MFS is closely associated with the Thomas theorem, which states, "If men define situations as real, they are real in their consequences" (Thomas and Swaine Thomas 1928, p. 572; Kroneberg 2011, p. 62). The model adopts this idea by conceiving of interpretations of the situation as processes of selection from a set of alternatives (Kroneberg 2011, p. 121). Of theoretical significance is whether interesting variations in action can be explained by reference to typical differences in the interpretation of situations (Kroneberg 2011, p. 120). The most basic definition of a frame is that it is a typical pattern of interpretation. Typical patterns of interpretation represent answers to the question, "What is it that is going on here?" (Goffman 1974, p. 9).

A typical pattern of interpretation among German municipalities faced with demographic change is the idea of "shrinking cities". Shrinking cities are at the centre of attention in both national (Gans and Schmitz-Veltin 2006; Sarcinelli and Stopper 2006) and international research (Oswalt 2011; Pallagst et al. 2011; Audirac and Arroyo Alejandre 2010). It represents a pattern of interpretation that is demonstrably shared by municipal policymakers in Germany and Poland alike (cf. Bartl 2011; Großmann 2007; Glock 2006).

On a continuum of patterns of interpretation, the idea of shrinking cities is at the one end and "the dream of eternal prosperity" (Lutz 1984 - our translation) and permanent growth (Kaufmann 2005) at the opposite end. Drawing on Lutz (1984), some authors even attribute the difficulty of developing a theory of (local) shrinkage to the general obsession with growth in the capitalist mode of production (e.g., Brandstetter et al. 2005; Großmann 2007; Streeck 2005b).

A third typical interpretation is somewhere on the continuum between obsession with growth and fear of shrinkage. This interpretation expects a stagnating population. It is a widespread pattern in both Germany and Poland (Bartl 2011; Parysek 2005).

In the MFS, frames constrain the conceivable range of options available to actors (Kroneberg 2005, p. 346) but do not determine behaviour. Instead, actors choose scripts and a particular line of action in the two subsequent stages of the selection process (Esser 2010b, pp. 55–56; Kroneberg 2011, pp. 121–123).

Framing in municipalities experiencing demographic change requires the local elites to have a comprehensive picture of the demographic development in their municipality. The ability to make reasonable demographic policy choices depends on a sufficiently accurate appraisal of the demographic situation. The MFS model refers to a situation in which subjective perception corresponds with objective reality as a "match of frames". Esser (2010b, p. 55) considers an 'accurate' definition of the situation to be a necessary condition for successful action, and Mayerl (2009, p. 240) assumes that a suitable frame always yields a positive payback.

We agree with this view in that we expect demographic policy to achieve poorer results in municipalities with similar demographic conditions if there is a discrepancy between their elites' subjective perception of local demographic development and the objective reality thereof (*framing hypothesis*). However, Kroneberg's (2011, pp. 145–147) suggestion that flawed choices at the level of framing might subsequently be corrected at the level of script or action selection leaves some justified doubt as to whether this assumption actually holds (Rademacher 2013).

At the stage of frame selection, variable rationality determines whether information processing occurs in the AS or RC mode. Local decision makers can resort to comprehensive information on demographic development provided by regular monitoring (e.g., by a municipal statistics office or demography department) without much additional effort in terms of reflection. This constitutes the AS mode. In the absence of such information on which to ground decision making, decision makers must invest considerable short-term effort—in terms of both reflection (Who has such information? Which data are important?) and resources (Who can provide such data in the short term and at reasonable cost?)—to obtain such information to enable a rational municipal demographic policy. This constitutes the RC mode. In both of these cases, subjective perception and objective reality correspond with one another. The chosen frame can therefore be considered to be valid (Esser 2010b, p. 57; Kroneberg 2005, p. 354).

However, both the AS and RC mode bear potential for error (Eisenführ and Weber 2003; Heiner 1988). For instance, we can easily imagine decision makers that operate in the AS mode to rely on subjective experiences or biases that fail to correspond with reality. In the RC mode, they might draw on the wrong or mistaken information, or on unsuitable previous experience. In these cases, the initially selected frame would be invalid and costs incurred as a consequence of making the wrong decisions (Esser 2010b; Kroneberg 2011).

In the MFS, switching between modes of operation is not a matter of deliberatechoice. It is the outcome of processes of pattern recognition. Behaviour is governed by processes of recognising significant symbols that activate certain ideas, worldviews and patterns of interpretation (Esser 2010b, p. 51).

Growing housing vacancies or "broken windows" (Kelling and Wilson 1982) are significant symbols of local shrinkage. Processing these symbols in the AS mode requires knowledgeof their significance. Whether this requirement is met depends on local policy makers' socialisation experiences. Defining the situation thus turns into a process of perception and recognition (cf. Markowitz 1979)—i.e., the perception of significant symbols and the recognition of their significance.

The situations and the interpretations thereof vary according to the significance and mental accessibility of the "significant symbols". For instance, an administrator who encounters broken windows in an abandoned neighbourhood for the first time, or who has come to attach greater significance to this phenomenon, will feel compelled to inquire into its potential consequences, even though he or she may have initially perceived it to be no more than an aesthetically displeasing sight. In social psychology, this shift in perspective has been called "need for cognition" (Cacioppo et al. 1996).

11.2.2 Script Selection

In most situations, actors have typical programmes of action. The MFS calls them *scripts* (Kroneberg 2011, p. 121). They are "mental models for action within defined situations" (Esser 2001a, p. 263–our translation) and invariably presuppose framing (Kroneberg 2011, p. 121).

The concept of script stems from cognitive psychology (Abelson 1976, 1981; Schank and Abelson 1977) and refers to a hypothetic-cognitive structure that is deliberately conceived in a broad sense in the MFS to capture norms, conventions, routines as well as cultural and emotional programmes of behaviour (Kroneberg 2011, p. 121).

In line with Lepsius (1995), we define institutions as a set of rules that organise action in accordance with a certain guiding idea of a legitimate social order (Chap. 3). Such a broad concept of institution is contained in the notion of script employed in the MFS.

A first set of institutional scripts pertaining to local public service provision in German municipalities faced with demographic change exists at the level of municipal charters. Article 28 of the German Basic Law establishes the constitutional foundations of local self-government according to which the local bodies of self-government have jurisdiction over all municipal affairs within the limits defined by law (Walter-Rogg et al. 2005, p. 414). Each German state defines the "scope of autonomous decision making" (Walter-Rogg et al., 2005, p. 414—our translation) in detail (see also the chapters on the German states in Kost and Wehling 2010).

In the traditional German model of welfare corporatism (see, e.g., Katzenstein 1987; Zimmer 1999; Streeck 2005a), the municipalities are the main providers of public welfare and other public services. Since German municipalities have been required to shoulder an increasing share of mandatory tasks at the expense of their voluntary service provision (Pähle 2011, pp. 74–75; Walter-Rogg et al. 2005, p. 418) and because of their constitutionally assigned role and the interdependence of policies at the federal, state and municipal levels, Mäding (2009b, p. 36) believes that demographic change inevitably affects the municipalities.

When actors choose scripts, they must reflect on the question, "What is to be done?" The answer can be given in conditional (What can I do?), prescriptive (What should I do or better not do?), or institutional terms (What kind of behaviour is appropriate or socially desirable in this situation?). Individual socialisation experience, in turn, determines which scripts are cognitively available in the first place. Scripts thus form the structures of an actor's lifeworld (Luckmann and Schütz 1973; Kroneberg 2011, p. 122).

In the MFS, the choice of a programme of action is also subject to variable rationality. The act of choosing is thus performed either in the AS or RC mode. In the AS mode, activating a script involves three elements:

> The general availability of a script […], its accessibility […] and its match with the frame activated beforehand. The greater the extent to which these factors apply, the more likely the script is to be selected. (Kroneberg 2011, p. 131—our translation)

The match of a frame links the autonomous-spontaneous script activation with the previous stage of the selection process in the MFS. This script activation in the AS mode is more likely the more uncertain an actor is about his or her situation (Kroneberg 2011, p. 133). The accessibility of a programme of action depends on being linked to an interpretation of the situation. Scripts can, however, "also be directly activated by situational objects" (Kroneberg 2011, p. 132—our translation). General availability of a script refers to the degree to which a script is anchored

mentally as a disposition toward a particular line of action. In case of a social norm, this would correspond to the degree of internalisation, and in case of a routine, to the degree of habitualisation (Kroneberg 2011, pp. 131–132).

Apart from the aforementioned (constitutional) legal norms, divergent local practices of public service provision can be considered other examples of routines related to demographic development. Both traditionally and according to the principle of subsidiarity laid down in Art. 23 of Germany's Basic Law, the provision of municipal services in Germany is organised in (neo-)corporatist negotiation systems. Independent service providers are given precedence over public providers (cf. Bieker 2006, pp. 49–50; Dienel 2002, p. 144). In the current debate, this (neo-) corporatist provision of public goods has been referred to by the neologism of "local governance" (Nuissl and Heinrichs 2011; Blömker 2010; Kersting et al. 2009).

The various types of local governance become observable (Rademacher 2013) in the MFS (Kroneberg 2011, pp. 156–159) by the way they are encoded (Vanberg 2000, 2002, 2009). Here, encoding refers to the mental assessment of the consequences of action. Scripts or informal modes of municipal cooperation that lead to successful problem solving are reinforced, and unsuccessful scripts that fail to do so are weakened (Vanberg 2002, p. 17).

According to Vanberg's criteria, we can consider the "Local Alliances for Families" policy that was launched by the Social Democratic-Green Party coalition government in 2004 to have been a successful demographic policy script (Bundesministerium für Familie, Seniaren, Frauen und Jugend 2013; Staats et al. 2010; Dienel 2007; Strohmeier et al. 2005). After overcoming some initial problems of implementation (Dienel 2007; Strohmeier et al. 2005), there now exist 670 such alliances in 337 of the 402 counties and cities without counties in Germany (Bundesministerium für Familie, Seniaren, Frauen und Jugend 2013). This federal government initiative supports local networks involving collaborators from politics, public administration, business and society with the aim of directly improving the living conditions of families locally (Staats et al. 2010, p. 3). In the long term, the local alliances are intended to contribute to establishing family policy as an issue in public discourse.

An expert opinion commissioned by the Federal Ministry of Family Affairs, Senior Citizens, Women and Youth identifies three general success factors and gives examples of best practices resulting from this federal initiative (Bundesministerium für Familie, Seniaren, Frauen und Jugend 2013, pp. 27–39). The first success factor is a network mode of local governance, which includes a suitable structure of involvement, the alliance coordinator assuming a "catalyst" role and project planning (Bundesministerium für Familie, Seniaren, Frauen und Jugend 2013, pp. 27–28). The second important factor for the success of such an alliance is intense cooperation among the participants (Bundesministerium für Familie, Seniaren, Frauen und Jugend 2013, p. 28). Cooperation is a key aspect that is closely associated with the German model of welfare corporatism, which has traditionally involved the local provisioning of public services through a network of state and non-state actors (Zimmer 1999, pp. 39–40). From this follows, as the third success factor, the need to involve key players in the alliances (Zimmer 1999). Based on their past

experience with the system of welfare corporatism, German municipalities typically prove successful in involving precisely those actors who can be expected to make significant contributions to the network activities. Problems regularly surface if municipalities fail to involve such key actors or such activities are to be extended to new areas (e.g., reconciling care and work), which can be explained using Vanberg's concept of encoding (2000, 2002, 2009).

In municipal policy consulting, encoding primarily occurs via best-practice evaluations. Exemplary municipalities have won awards for their activities in the field of "municipal elderly and seniors policy" (Backes and Amrhein 2011– our translation; Bayerisches Staatsministerium für Arbeit und Sozialordnung, Familie und Frauen 2009), which is another policy area with demographic implications. Such awards are not only of a symbolic nature. Since "local demographic policy" (Schultz et al. 2009 – our translation) is a policy area that has only recently emerged, "pioneer municipalities" are not only thought to assume the role of exemplars, but are also expected to be first to develop successful strategies (Rademacher 2013, p. 208). In addition to norms and routines, we also subsume these successful, experience-based strategies under the concept of script employed in the MFS.

Kroneberg (2011, pp. 138–139) argues that the rationale of the RC mode is only suitable to address institutional programmes of action or the situational appropriateness thereof (Which behaviour is appropriate to a specific situation or is expected socially?; see, e.g., March and Olsen (1989, (1996). Typical instances of script selection in the RC mode are conflicting norms or rules, or situations marked by ambiguity or contradictions (Kroneberg 2011, p. 139).

Local demographic policy requires that the script-related question of "What is to be done?" must be answered in processes of deliberation in the municipal councils in charge or in other arenas of local governance. Such processes of negotiation inevitably cost time and resources, as the MFS in fact predicts.

Kroneberg (2011, p. 129, 132) assumes that scripts can also be activated by situational objects. This being the case, we can expect the process of pattern recognition to be significant for script selection as well. As a "lifeworldly stock of knowledge" (Luckmann and Schütz 1973, p. 123; Kroneberg 2011, p. 122), programmes of action and frames both depend on actors being familiar with the "significant symbols".

In the still nascent field of municipal demographic policy, there exist only a few institutions, norms or routines specific to that particular policy area. This "need for cognition" sets the stage for political consultants and organisations in the consultancy business. In Germany, the expertise of Bertelsmann Foundation (Bertelsmann Stiftung 2005, 2009; Schmidt 2006) deserves particular mention in this respect.

11.2.3 Selection of Action

In the MFS, a line of action is selected from a set of alternatives (cf. Coleman 1990) only once an actor has defined the situation (frame selection) and activated the respective programme of action (script selection). In the process, he or she answers the question, "What will I do?"

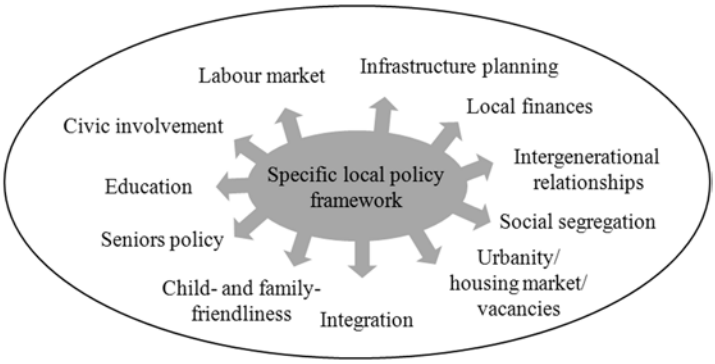

Fig. 11.2 Important local policies. (Source: Our own illustration, based on Schmidt 2006, p. 30)

For its municipal policy consultancy services, the Bertelsmann Foundation has developed a complex system of interrelations among policy areas of potential significance for coping with demographic change (Fig. 11.2).

Mäding (2008a; 2009b) considers local demographic policy to generally be a crosscutting policy issue. However, he attaches special significance to local family policy and elderly and seniors policy (Backes and Amrhein 2011, p. 249; Naegele et al. 2010, p. 100). These policy areas not only focus on two target groups that play a crucial role in demographic development, but also represent "crosscutting areas" (Gerlach et al. 2010, p. 5) or "crosscutting issues" (Backes and Amrhein 2011, p. 249 – our translations) in that they affect all areas of municipal policy.

"The tasks and agents of municipal family policy are diverse so that it can be described as a crosscutting task involving child and youth welfare services, housing and land use policy, community development planning, economic development, social and health policy, school, sports and cultural policy and the local administration" (Gerlach et al., 2010, p. 6 – our translation).

In terms of local seniors policy, Naegele et al. (2010, p. 100—our translation) mention "work and employment; reconciling care and work; leisure and communication; education, culture and new media; health, healthcare, health promotion; housing and residential neighbourhoods; transportation and mobility; everyday services and technology-assisted independent learning; support of families, intergenerational relationships and other social networks; promotion of seniors as an economic factor; participation and civic involvement".

Within this spectrum of crosscutting issues, there are a host of individual and interrelated alternatives of action. The goal of selecting a line of action in the MFS is to choose the most appropriate and the potentially most successful alternative. As opposed to widespread (implicit) holistic assumptions (*demographisation hypothesis*), the underlying assumption here is that the consequences of local demographic change only emerge as the outcome of municipal strategies of coping (*policy hypothesis*). This means that local policy matters!

The choice of an individual option or a complex set of options for action can occur on the basis of a previously activated script (AS mode). However, actors do not always act along the lines laid out by social institutions, norms, routines or intuitive programmes of behaviour. The fact that actors have the choice of pursing a tried and tested line of action but do not have to do so is the quintessence of the second MFS assumption of variable rationality.

With the exception of rituals, there is no script that fully determines action in all respects (Kroneberg 2011, p. 122). Scripts rather contain gaps that have to be filled by situational considerations (Abelson 1981). That is the main reason why the MFS considers the selection of action among alternatives to be an analytically independent third stage in its own right. If a script fails to fully regulate action […], the selection of action in the AS mode is impossible (Kroneberg 2011, p. 134). This compels actors to reflect on their action (RC mode; "need for cognition") since simply complying with"social scripts" (Esser 2000, pp. 198–235) without further reflection becomes impossible.

Downsizing infrastructure (Bartl 2011, pp. 35–36) and reducing personnel (Bartl 2011, pp. 40–44) are examples of typical patterns of action in shrinking municipalities. As Fig. 11.2 illustrates, a host of alternative options are conceivable as well. However, for reasons related to the availability of valid data (Bertelsmann Stiftung 2005; Esche et al. 2005), we will focus on the two crosscutting issues of local family policy and municipal elderly and seniors policy (Backes and Amrhein 2011).

"The AS mode represents a process of automatic pattern recognition and schema activation" (Kroneberg 2011, p. 134; Vanberg 2002). At the stage of choosing the line of action, pattern recognition is of but minor significance. Pattern recognition takes place at the two previous stages. At the point of action selection in the AS mode, actors are involved in executing an already activated script. This is impossible, however, if a gap in the script is encountered so that it fails to provide a sufficient blueprint for action. The degree to which the previously selected script determines action is therefore a significant factor for the selection of action in the AS mode.

A low degree of determination requires an actor to rationally reflect on his or her options (RC mode). The actor can be expected to adhere to the economic paradigm of "purposive-rational action" (Weber) and choose the alternative with the greatest subjective expected utility (SEU). If there is no established strategy, programme of action or script to draw on, the actor will employ a "situational heuristic" (Kroneberg 2011, p. 124), which Esser (2001a, p. 293) calls a "random heuristic". Lindblom (1959, 1975) has captured these heuristics in his concept of "muddling through".

We also observe this muddling-through pattern of interpretation in local self-government (Jann and Bogumil 2009, pp. 166–170), particularly in local budgetary policy (Geißler 2011, p. 52; Holtkamp 2006, pp. 91–92; Kersting 2004, pp. 84–85) when local policy makers feel out potential policy options and their possible consequences in an incremental process of trial and error.

Recent variants of this approach (Esser 2010b, p. 57; Hill et al. 2009, pp. 146–147; Mayerl 2009, pp. 240–241) always model payoffs in the MFS at the stage of frame selection. They demonstrate that appropriate decisions reached in the AS mode yield the highest utility. Erroneous decisions inevitably involve additional

costs, as does the RC mode by incurring costs of reflection (time and resources). Kroneberg (2011, pp. 145–147) points out that errors can be corrected at each stage of the selection process. Assessing the costs and benefits of framing and script selection, however, is only possible in the form of mental projections. For this reason, all of the potential cost and utility functions must be aggregated across all the three stages of selection (Rademacher 2013, pp. 131–132). The MFS predicts the highest utility values only if the selection process occurs in an unreflected or routine manner across all stages (AS mode).

In the MFS, we have to reckon with imperfect decisions (Heiner 1988), mistakes and errors (Eisenführ and Weber 2003). In the fairly young area of local demographic policy (Wiechmann and Kißler 2010), we can even expect error to occur particularly frequently. Flawed decisions are of course possible in both the AS and RC mode. However, they are more expensive in the RC mode because of the cumulative costs of error and of reflection. For this reason, we can expect higher utility values from perfect and imperfect decisions in the AS mode.

Local demographic policy can therefore be supposed to yield the best results if municipal family policy and municipal elderly and seniors policy are implemented in an unreflected, routine manner (AS mode). This presupposes three things: (1) Local actors are aware of the local demographic situation and judge it accurately (match of the demographic frame). (2) Suitable routines are available and mentally accessible to them (script selection in the AS mode). (3) The programmes of action must be directly related to one of the two crosscutting issues, i.e., family or seniors policy (selection of a line of action in the AS mode as an act of implementing the previously activated script). We expect incremental negotiation processes in the sense of "muddling through" (Lindblom 1959) to be more expensive and therefore to produce poorer results than modes of action determined by existing institutions or routines (*institutionalisation hypothesis*).

11.3 Methodology

11.3.1 Study Design

In the previous chapters, we have already subjected our hypotheses to a number of multivariate analyses of secondary data (Rademacher 2013; Rademacher and Bartl 2013). Here, we will present only a selection of sequential multiple linear regression analyses (Fox 2008, pp. 105–110), which draw on Clogg, Petkova and Haritou 1995). The huge advantage of sequential regression analysis is that it makes it possible to control for the dependence of the estimated effect of individual variables upon the effect of other variables that is also estimated in the regression model (Urban and Mayerl 2011, p. 312). This is the only way to control for differences between our hierarchically ordered models of explanation, which enables us to subject our hypotheses to comparative empirical analysis.

Here, we present only the best possible model adjustments in tabular form (for a more detailed discussion, including intermediate steps and regression diagnostics,

see Rademacher 2013). The model adjustments are based on "power transformations" (Box and Cox 1964; Fox 2008, pp. 292–293; Schnell 1994, pp. 73–81), which are often criticised for producing intuitively rather inaccessible values (Schnell 1994, p. 80 criticises this criticism). For this reason, we interpret specific values that are measured in natural units without presenting the underlying untransformed models in detail (details can be found in Rademacher 2013).

Secondary analyses reanalyse data for information that the primary researchers generally are not interested in. They also reduce the costs of research since primary data collection becomes expendable (cf. Schnell et al. 2011, pp. 243–244). Both aspects apply to our secondary analyses of the consequences of local demographic policy (Rademacher 2013; Rademacher and Bartl 2013).

Our studies are based on the representative mail survey of German mayors, the dataset of which the primary researchers kindly made available to us (Bertelsmann Stiftung 2005; Esche et al. 2005). The survey was conducted in February 2005. It contacted the 1436 mayors of all German cities and municipalities with a population over 10,000 by mail, 648 of which participated in the survey (gross response rate of 45.1 %). Instead of an exhaustive survey, only a partial one could hence be realised.

Nonetheless, there currently exists no other similarly comprehensive, comparative dataset for all of Germany on how municipalities deal with demographic change (Gerlach et al. 2010). The data are therefore widely used for inter-municipal comparative analyses (e.g., Rademacher and Bartl 2013; Backes and Amrhein 2011; Gerlach et al. 2010; Schultz et al. 2009).

We used record-linkage procedures (National Community Services Information Management Group 2004, p. 23) to additionally enhance the explanatory power of our secondary analyses. For this purpose, we complemented the mayor survey data with local context data obtained from the *Wegweiser Kommune* (Community Guide; Bertelsmann Stiftung 2013). To ensure the mayors' anonymity, information scientists and statisticians from the West Coast University of Applied Sciences in Heide, Germany acted as data custodians. The Official Municipality Key and postal codes served as identification variables for linking the data. The data could not be linked for 111 of the 648 participating municipalities. The main reason for this was changes in territorial demarcations. In those cases, neither the official municipal statistics nor the *Wegweiser Kommune* provided data on the municipalities in question.

There were also inconsistencies in the choice of units for the survey that needed to be adjusted for prior to our analysis. In Berlin, it was not the governing mayor who was contacted but the 12 district mayors, 6 of whom participated in the survey (Bertelsmann Stiftung 2005, p. 6). Berlin, however, is a city-state with a unitary territorial authority and political leadership, which is at the same time at the head of the city and of the state of Berlin (Hoffmann and Schwenkner 2010, p. 63). Klaus Wowereit (Social Democratic Party—SPD) has been Berlin's governing mayor since 16 June 2001. For reasons of consistency, he should have been surveyed as the representative of Berlin. Since there was reason to doubt the sample design in the Hanseatic cities of Bremen and Hamburg as well, all information pertaining to those city states was deleted from the dataset (Rademacher 2013, p. 169). In an additional 14 cases, the mayors of municipalities with a population of less (in some instances

considerably less) than 10,000 were surveyed and thus did not belong to the desired sample population (overcoverage; Bertelsmann Stiftung 2005; Esche et al. 2005).

The data was cleaned by removing the data for the eight city states, the 14 instances of overcoverage and the 111 cases for which context information was missing. Of the initial 648 municipalities, 515 remained in the dataset for analysis (for details, see Rademacher 2013).

11.3.2 Explanandum

To answer our research question of whether and, if so, how municipal demographic policy affects the fiscal capacity of German municipalities and their local labour markets, we sought to predict two criterion variables: local fiscal capacity and local unemployment rate.

The fiscal capacity index measures a municipality's financial scope. It is calculated as the sum of local real-estate taxes, local business taxes, and the municipality's share in income and sales taxes. To control for cyclical effects, 4-year means were used and calibrated based on current population data (Bertelsmann Stiftung 2013, p. 35). Since transfers and external funding do not enter the calculation, the indicator measures the extent to which a municipality is capable of autonomously generating the financial means to meet its obligations in terms of providing public services (Bertelsmann Stiftung 2013, p. 35).

The local unemployment rate is an indicator of the local labour market situation and thus of a municipality's economic capacity (Milbert 2011; Gatzweiler and Milbert 2009). Germany's Federal Employment Agency provides information on the unemployment rate only down to the county level. The Bertelsmann Foundation (Bertelsmann Stiftung 2013, p. 21) thus suggests calculating the local unemployment rate as a proxy variable (local unemployment rate = [employed residents subject to social security contributions + unemployed residents] × 100). It determines the percentage of the potential workforce currently registered as unemployed. The comparison of this index with the official figures provided by the Federal Employment Agency shows that this proxy variable indeed measures what it is supposed to measure ($R = 0.994$; see Rademacher 2013, pp. 179–180).

It is debatable to what extent these two indicators actually capture the consequences of local demographic policy. We do not deny that they do so only incompletely and in a broad-brush manner. Yet there are at least two arguments that speak in their favour. For one, both indices measure changes in the economic base of local self-government and do so by considering only a municipality's own fiscal capacity and the potential of its own labour market. The other one is that both criteria are used in key studies of local demographic change in Germany.

A first reference in this respect is the regular monitoring of spatial development by the Federal Institute for Research on Building, Urban Affairs and Spatial Development (*Bundesinstitut für Bau-, Stadt- und Raumforschung* [BBSR]). The authors of this regular monitoring report (Gatzweiler and Milbert 2009; Milbert 2011) assume circular relationships between demographic (population dynamic,

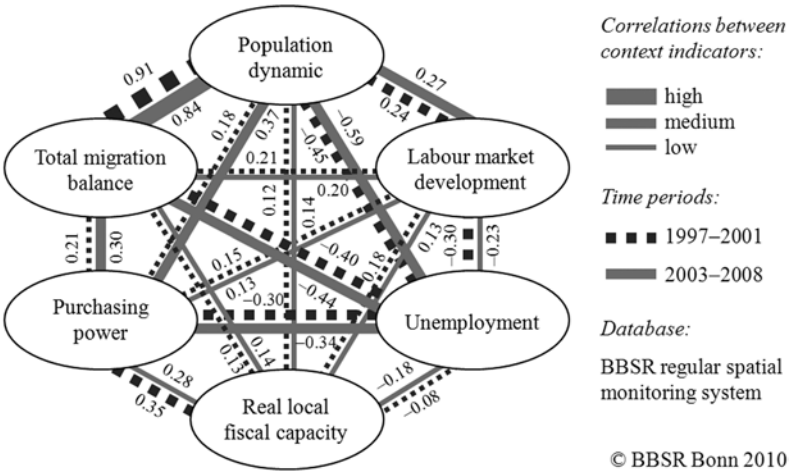

Fig. 11.3 Circularity of shrinkage and growth. (Source: Our own illustration, based on Milbert 2011, p. 5)

migration balance) and economic indicators (e.g., unemployment, real local fiscal capacity, purchasing power; Fig. 11.3). Another reference is the Bertelsmann Foundation's local demographic types (Schmidt 2006, pp. 24–96). They were first calculated, using hierarchical cluster analyses, for large cities (a population of over 100,000) and for small and medium-sized towns and cities (ranging from 5000 to 100,000 residents) for the *Wegweiser Kommune* in 2006 and have been updated annually since then (Bertelsmann Stiftung 2014). A third reference are studies on the demographic situation in Germany by the Berlin Institute for Population and Development (*Berlin-Institut für Bevölkerung und Entwicklung*; Kröhnert et al. 2011; Kröhnert et al. 2004). All counties and cities without counties in Germany were assessed in the two categories of demography and economy, and an overall grade was determined for the each city's or county's potential for demographic development, on the basis of which they were ranked.

11.3.3 Hypotheses Formulation and Testing Methods

The aforementioned reference studies all subscribe to an implicit logic of demographisation. The economic and demographic indicators are all treated as equally valid and enter into the empirical analysis without further verification as to whether this is justified. Although methods of a very different nature are applied in each study—bivariate correlation analyses, cluster analyses or local rankings—they all have in common that they conceal the complex relationships that potentially exist between the individual attributes instead of bringing them to the fore.

We assume that multiple regression analyses (Rademacher 2013) and other multivariate methods (Rademacher and Bartl 2013) are the only procedures capable of

illuminating such complex relationships. To test our four initial hypotheses (*demographisation, framing, policy* and *institutionalisation hypothesis*), we conducted a sequential multiple regression analysis for each endogenous attribute. In applying this method, the independent variables are entered blockwise, thus requiring the user to determine on theoretical grounds the sequence of predictors and their assignment to specific blocks (Bühl 2010, p. 409).

For this purpose, we transformed our initial hypothesis into statistically controllableassertions (alternative hypotheses).

- *Demographisation hypothesis*: The worse a municipality's demographic development, the poorer its economic development.
- *Framing hypothesis*: Municipalities whose mayor's assessment of the demographic situation deviates from what the official municipal statistics show (frame mismatch) will, all other things being equal, be in a worse economic situation. A suitable frame always yields positive payoffs (Mayerl 2009, p. 240). An 'accurate' definition of the situation is a necessary condition for successful action (Esser 2010b, p. 55).
- *Policy hypothesis*: Municipalities that actively engage in demographic policy have greater economic success.
- *Institutionalisation hypothesis*: Municipalities that actively engage in local demographic policy and draw on an elaborate repertoire of policy measures in the process are more successful economically because this saves them from having to go through time- and resource-intensive processes of negotiation (local governance).

The null hypothesis in each case states that the assumed statistical correlation does not hold ($\rho = 0$). Since we only tested directional hypotheses, we performed a one-tailed *t*-test and considered correlations with an α error below 10 % ($p < 0.1$) to be statistically significant.

Strictly speaking, standard errors and significance tests cannot be interpreted since we did not use a random sample but rather data from an incomplete exhaustive survey (Kroneberg 2011, p. 261; cf. Schnell et al. 2011, p. 291). There has been a broad debate, however, on whether significance tests can be applied to exhaustive surveys (Behnke 2005, 2007; Broscheid and Gschwend 2003, 2005; Berk et al. 1995; Bollen 1995; for a critical discussion, see Schnell et al. 2011, pp. 442–443). Broscheid and Gschwend (2005, pp. O-22), for instance, have argued that attempts to explain process-generated data cannot take all potential effects into account. In their reasoning, the error term might be interpreted as a "random factor" if it is influenced both randomly and by factors that cannot be measured (Broscheid and Gschwend (2005, pp. O-19). We therefore applied an alternative conception of standard error in our analysis. It assumes that data collection and coefficient estimates are repeated infinitely. In following this line of reasoning, we replicated the strategy of secondary analysis that Kroneberg (2011, p. 261) used in empirically testing the MFS.

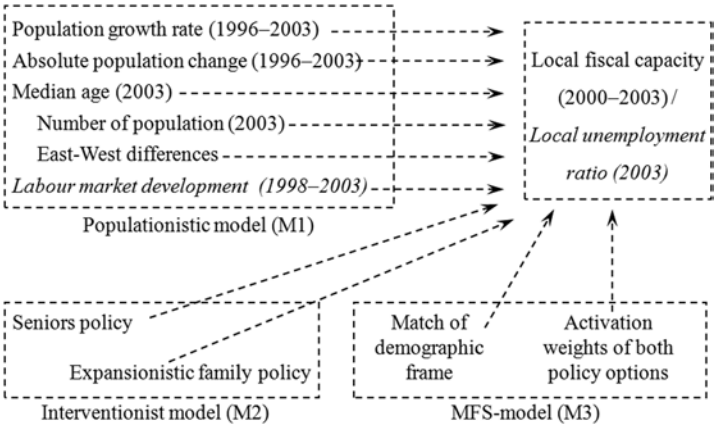

Fig. 11.4 Models of explanation.(Source: Our own illustration, based on Rademacher 2013)

11.3.4 Explanatory Models and Operationalisation

Based on these considerations, we derived two different three-stage models to test our directional hypotheses (Fig. 11.4).

The populationist models (M1) consist of direct effects between local demographic and local economic factors only, as do the circular BBSR model (Fig. 11.3) and other 'demographising' approaches (e.g., Kröhnert et al. 2011; Kröhnert et al. 2004). Population dynamics (Gatzweiler and Milbert 2009; Milbert 2011) were operationalised using three indicators: population growth rate, absolute population change from 1996 to 2003 and median age in 2003. All three variables have not only been used in the Bertelsmann Foundation's *Wegweiser Kommune* (Schmidt 2006) but also in the calculations applied to determine local demographic types (Bertelsmann Stiftung 2014; Bertelsmann 2013). The current size of the local population (2003) and the geographical location of each community in East and West Germany were additionally included as control variables in the populationist model (M1). The control variable 'East vs. West Germany' correspondsto the assumption that the worse a municipality's demographic development is, the poorer its economic development (*demographisation hypothesis*). It intends to control forthe much greater potential for shrinkage that Mäding (2008a; 2009b) and other authors see in East compared to West German municipalities. Furthermore, the official statistics for German municipalities release local demographic data with a 2-year lag (Statistisches Bundesamt 2008, p. 6). Therefore, we can assume that the mayors participating in the Bertelsmann survey (Bertelsmann Stiftung 2005) were aware of the 2003 data.

The demographising model (M1) used to explain the local unemployment rate includes labour market development (1998–2003) as an additional control variable compared to the one employed in explaining the fiscal capacity index. This indicator shows medium bivariate correlation with both demographic development and unemployment in the circular BBSR model as well (Fig. 11.3; Milbert 2011). Other than that, there are no differences between the statistical models. Yet, since they are not completely identical, multivariate regressions involving the simultaneous estimation of several endogenous criteria were not called for. However, tests of this kind performed elsewhere using identical models (Rademacher and Bartl 2013) have not yielded results that deviate significantly from the findings presented here.

The interventionist models (M2) checked for the influence of municipal action on the crosscutting issues of local seniors and family policy, both of which are sensitive to demographic development. In both policy areas, the voluntary provision of municipal services is considered to be of special significance. The compulsory tasks in care planning (Backes and Amrhein 2011) or in youth and family welfare services (Dienel 2007) are mandated by law. There is little variation between states or municipalities in this respect so that we can exclude them from consideration as possible explanatory factors in statistical analysis. The mayors were asked whether their municipalities pursue a forward-looking family policy and whether children and family policy are considered an important location factor in their communities (Bertelsmann Stiftung 2005; Esche et al. 2005). In addition, the mayors were asked, in an open-ended question, to name a maximum of three specific family policy measures. Only 34 mayors (6.6%) did not answer the question at all or gave only very general assessments (e.g., "not enough") (Rademacher 2013, p. 195). All other information provided could be distinguished into mandatory and voluntary public services for families and coded in terms of intensity (weak: a maximum of one intervention; strong: at least two interventions). Both interventionist models (M2) share a common assumption that contradicts demographising lines of reasoning, namely, that actively engaging in local demographic policy has a positive impact on local economic development, which is to say that local population policy matters. The MFS models (M3) take into consideration the theoretically significant convergence between the assessment of the situation and actual population development (framing). The mayors were asked whether they expected their municipal populations to grow, remain the same or decline in the near future. The response options corresponded with the three typical demographic patterns of interpretation (growth, stagnation and shrinkage) (Bartl 2011). We compared the subjective frames with the respective municipality's objective demographic situation on the basis of data on the relative population changes provided by Bertelsmann's *Wegweiser Kommune* (Schmidt 2006; for details, see Rademacher 2013 and Rademacher and Bartl 2013). In cases where the population development corresponded to the prospective subjective projection, we assumed a perfect match of frame (M = 1). In addition, the survey inquired about the importance of seniors and family policy and the local influence on the design of such policy measures on a five-point Likert scale (from 1 = very low to 5 = very high; Bertelsmann Stiftung 2005; Esche et al. 2005). These measurements were used to operationalise the availability and accessibility of pro-

grammes of action in these areas, which are important factors for AS script selection in the MFS. For this purpose, we assumed a multiplicative moderator effect, which was tailored to fit the MFS (Esser 2010b; Kroneberg 2011; Mayerl 2009). In cases where frames matched perfectly and the importance of and local influence on demographic policy was considered to be high, we assumed that demographic policy was pursued in the AS mode. By implication, this means that "the influence of other incentives and alternatives on the selection of action" (Kroneberg 2011, p. 153) is low and that there is no "need for cognition" (Cacioppo et al. 1996). It is therefore unnecessary to apply any cost-benefit considerations. Decisions have to be made neither on rational grounds (Esser 2010b) nor in an incremental fashion ("muddling through"; Lindblom 1959, 1975) or in protracted deliberative negotiations in municipal councils or in other forms of local governance (Nuissl and Heinrichs 2011; Blömker 2010; Kersting et al. 2009). This always saves costs in the MFS (e.g., time and resources; see Esser 2010b; Kroneberg 2011). Encoding (Vanberg 2000, 2002, 2009) makes it possible to pursue established patterns of behaviour in a routine and unreflected manner.

The measures outlined provided all the information necessary to also test our institutionalisation hypothesis empirically. A final aspect that we want to draw attention to is that, in the MFS models, the framing and institutionalisation hypotheses were statistically entered into the overall model (M3) after the two components of local seniors and family policy, although both frame and script selection causally precede the choice of action (Fig. 11.1). This poses no problem in linear regression models, though, since the effect sizes and the standard errors of the overall model are not affected by the order in which predictors enter into the model (Fox 2008, pp. 105–106). However, the available data is not suitable for structural equation models and causality tests because of the fact that the survey data only reflects the mayors' assessments at a certain point in time (February 2005).

11.4 Empirical Results

11.4.1 Local Fiscal Capacity

Regional economic data and spatial demographic data rarely conform to a normal distribution (Bertelsmann Stiftung 2014). The right-skewed distribution of the fiscal capacity index (skewness: 2.0; Rademacher 2013, p. 176) violates the homoscedasticity assumption (Fox 2008, p. 17). To meet this condition for regression analysis, a Box-Cox transformation (Box and Cox 1964, pp. 292–293) was performed, using the bcskew0 command (cf. StataCorp 2013, p. 1043) and a maximum likelihood estimator λ of 0.0303.

The data set for sequential regression analyses was reduced from 515–505 units because of non-response by 12 mayors to the item asking for an assessment of future demographic development (Rademacher 2013, pp. 242–243). Since the determination coefficient ranges from 0.48 (M1) to 0.50 (M3), the quality of the adjusted models can be deemed acceptable (Rademacher 2013).

The populationist model (M1) assumes that demographic developments are irreversible (Bartl 2011, p. 98). This approach derives the future development from current and projected population numbers, which has been coined "demographisation" (Sackmann and Bartl 2008; Barlösius and Schiek 2007). The consequences of population change are thought to be beyond the influence of local demographic policy.

Although this is a widely shared perspective in demographic discourse (Bartl 2011; Rademacher and Bartl 2013; Rademacher 2013), we could find no evidence of a demographic effect on local fiscal capacity, which thus contradicts what the *demographisation hypothesis* would predict (Table 11.1; as opposed to the findings by Walla et al. 2006, p. 224 and Dransfeld and Osterhage 2003). We found no significant impact, neither practically nor statistically, of the population growth rate (1996–2003) and the mean-centred median age (2003) on our index of local fiscal capacity. Although the influence of absolute population changes (1996–2003) shows an α-error of lower than 5% (two-sided significance) and thus appears to be statistically significant, this influence is in fact very small, to the point of being empirically negligible. This means that the non-existence of such a relationship in the process-induced data is not coincidental (Broscheid and Gschwend 2005). We must instead suspect that there are structural reasons for the absence of such an influence of population dynamics. Local population dynamics (Gatzweiler and Milbert 2009; Milbert 2011) simply have no impact on local fiscal capacity. This finding corresponds with the extremely weak bivariate correlations between the two indicators used in the BBSR's regular spatial monitoring system (R (1997–2001) = 0.12; R (2003–2008) = 0.14; Milbert 2011: 5; see Fig. 11.3).

Only the two control variables—current population (2003) and discrepancies between East and West Germany—display the impact predicted by the demographisation hypothesis at statistically significant levels.

East German towns and cities have a lower fiscal capacity than their West German counterparts (negative, significant effect). In non-Box-Cox-transformed models, East German municipalities show a fiscal capacity that is 332.40 € lower per capita than West German ones when controlling for all other predictors of the populationist model (M1) (Rademacher 2013, p. 223). This confirms that East German tax revenue plays a secondary role to federal and state transfers (Bartl 2011, pp. 128–129; Anton and Diemert 2010, 2011; Scherf 2010, p. 377).

Moreover, larger cities have greater fiscal capacity (positive, significant effect). Via Germany's vertical fiscal equalisation mechanism, from the federal, state, down to the municipal level, this statistically significant size effect apparently overrides the impact that population decline and ageing has on fiscal capacity. This even reinforces the directly proportional relationship between the size of the municipality and tax revenue already contained in the intercept. At first glance, the increase by 0.08% per resident observed in the non-transformed model seems to be negligibly low (Rademacher 2013, p. 223). The estimated fiscal capacity for a West German city with a population of 500,000 is 1079.13 € per resident. This figure is roughly one-and-a-half times higher than the fiscal capacity of 714.08 € for an average-sized

Table 11.1 Sequential regressions for the explanation of local fiscal capacity ($N = 505$). (Source: Our own calculations)

Predictors	M1	M2	M3	M1–M2	M2–M3
Intercept	5.23** (0.20)	5.27** (0.21)	5.28** (0.21)	−0.04 (0.05)	−0.01 (0.04)
Population growth rate (1996–2003)	−0.01 (0.00)	−0.01 (0.00)	−0.01 (0.00)	0.00 (0.00)	0.00 (0.00)
Absolute population change (1996–2003)	0.00* (0.00)	0.00* (0.00)	0.00* (0.00)	0.00 (0.00)	0.00 (0.00)
Mean-centred median age (2003)	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)	0.00 (0.00)	0.00 (0.00)
Log(population) (2003)	0.20** (0.02)	0.19** (0.02)	0.19** (0.02)	0.01 (0.00)	0.00 (0.00)
West or East Germany	−0.81** (0.05)	−0.80** (0.05)	−0.78** (0.05)	−0.02 (0.01)	− 0.02 (0.01)
Seniors policy		0.08* (0.03)	0.08* (0.03)		0.00 (0.00)
Active family policy		0.07* (0.03)	0.05 (0.03)		0.03 (0.01)
Match of demographic frame			−0.06 (0.03)		
Activation weight of seniors policy			−0.05 (0.08)		
Activation weight of family policy			0.18** (0.06)		
R^2	0.48	0.49	0.50	$F(\Delta R^2)$	
SEE	0.35	0.35	0.35	5.58**	2.93*

Legend: standard errors in brackets, *SEE*: standard error of estimates
$^{+}(\alpha < 0.1)$, * ($\alpha < 0.05$), ** ($\alpha < 0.01$), not significant ($\alpha \geq 0.1$)

reference municipality (mean population of 43,690). This discrepancy is close to the weighting factor of 1.8 (referred to as *Einwohnerveredelung* in Germany) that Elster determined for municipalities in Lower Saxony with a population of over 500,000, which lends it further plausibility. *Einwohnerveredelung* means that central places receive a higher share of income and sales tax revenue from the fiscal equalisation scheme to compensate for the more comprehensive public services that they must provide due to their centrality status. Although this applies in general, the value of the weighting factor varies between the states (Elster 2008, pp. 132–133). The centrality of large cities hence privileges them additionally since they often also host the headquarters of large companies, which mutatis mutandis results in higher business tax revenue (Anton and Diemert 2010, 2011; Falken 2009; Falken-Grosser 2010).

The aforementioned positive size effect is not linear but logarithmic. This means that the larger a municipality, the lower is the additional increase in fiscal capacity. For this reason, we also performed a logarithmic transformation of the exogenous variable of size of the municipality in addition to doing so for the endogenous variable of fiscal capacity (Table 11.1; Rademacher 2013, pp. 223–225).

Model M2 was designed to test the *interventionist hypothesis* and reflects the "standard model of policy assessment research in demography", which Strohmeier (2002, p. 109) criticises as too simplistic. It assumes that political intervention clearly achieves the intended effects. Local population policy matters.

At least this is what the interventionist model (M2) for the explanation of local fiscal capacity shows (Table 11.1). Both a forward-looking municipal seniors policy and an active local family policy enhances fiscal capacity (positive, significant effect), which is in accordance with our *policy hypothesis*. In the non-transformed regression model, a forward-looking seniors policy increases local fiscal capacity by 71.27 and an active local family policy does so by 35.85 € per capita (Rademacher 2013, p. 231).

The MFS model (M3) expands the "standard model" (Strohmeier 2002, p. 109) by additionally taking into account the perception of demographic changes (*framing hypothesis*) and the respective AS mode of local demographic policy (*institutionalisation hypothesis*). As opposed to two recent MFS variants that claim an accurate frame will always yield positive payoffs (Esser 2010b, p. 55; Mayerl 2009, p. 240), we were not able to empirically verify the *framing hypothesis*. This speaks more in favour of Kroneberg's 2011, pp. 145–147) assumption that imperfect framing can still be corrected in the subsequent process of script and action selection (Rademacher 2013).

Whether or not a municipal seniors policy is pursued in the AS mode has no significant impact on the fiscal capacity index (Table 11.1). This seems to be a "floor effect" (Urban and Mayerl 2011, pp. 319–320) since the dataset for our analysis contains only 22 municipalities that have specific routines in place in this particular policy area. It would be interesting to see whether the number of municipalities featuring such routines has increased in the meantime—and, if so, with what effects—considering the fact that the demand for social services tailored to the needs of the elderly has increased in recent years.

An active local family policy pursued in the routine or unreflected AS mode enhances fiscal capacity (positive, significant effect). In the MFS model (M3), this effect that is associated with the sheer existence of a municipal family policy in the interventionist model (M2) shifts to the routine implementation of such a policy in the MFS model. In the non-transformed model, a routine family policy increases local fiscal capacity by 85.93 € per resident.

The empirical comparison of the three models (i.e., comparison of M1 and M2 and of M2 and M3 respectively) in our sequential regression analysis (Fox 2008, pp. 105–110; Urban and Mayerl 2011, pp. 312–318; Bühl 2010, p. 409; Clogg et al. 1995) shows that there are hardly any significant changes in the regression parameters other than the mentioned shift in the effect of local family policy between the interventionist (M2) and the MFS model (M3). This leads us to conclude that the models and the blockwise entered predictors have a cumulative effect. We found evidence only for the moderator effect of local family policy, as predicted by the MFS.

11.4.2 Local Labour Market

In explaining the local unemployment rate, the models violate the homoscedasticity assumption to a lesser extent than in the case of the fiscal capacity index in the previous section (see also Rademacher 2013). To improve intelligibility,

we refrained from performing "power transformations" (Schnell 1994, pp. 73–81). The non-transformed sequential regressions also yielded very high determination coefficients, ranging from 0.7 (M1) to 0.72 (M3) (Table 11.2).

The populationist model (M1) predicts a local unemployment rate of 12.1 % for the reference municipality, which is a medium-sized municipality (population of 43,690) in West Germany that has not witnessed any change in population since 1996, has been moderately ageing, and whose number of residents in gainful employment has not varied since 1998 (Rademacher 2013, p. 247). A statistically significant increase of the intercept by 0.91 % points is observed only when switching from the populationist to the interventionist model (from M1 to M2). The predictors, however, have the same kind of cumulative effect as in the models for explaining fiscal capacity.

The absolute population change between 1996 and 2003 likewise has only a statistically but no practically significant effect on local unemployment. Instead, the population growth rate displays the effect predicted by the *demographisation hypothesis*. Any population increase by 1 % point in the period under study reduced the unemployment rate by 0.25 % points (negative, significant effect). The ageing effects are statistically non-significant ($p > 0.1$).

Drawing on Broscheid and Gschwend's reasoning (2005), this would mean that the process-generated data of the populationist model (M1) are randomly distributed.

The partial effect of the additional control variable of 'labour market development' (1998–2003) is slightly positive (positive, significant effect). If the number of jobs increased by 1 % during the period in question, then unemployment increased as well, although only by 0.01 % points. However, this effect is hardly of any practical significance (Rademacher 2013). There is no evidence that size of a municipality has an effect on the local labour market. What we have observed instead is the perpetuation of differences between the local labour markets in East and West Germany. East German towns and cities feature an average unemployment rate that is 9.87 % points higher than their comparable West German counterparts if we control for the remaining predictors of the first model (M1: population dynamics, ageing, size of municipality, labour market development). Our test of the *demographisation hypothesis* results in an inconsistent picture overall. Whereas relative population growth (1996–2003) does have the predicted positive impact on the local labour market, the two other indicators of the model (M1), absolute population change (1996–2003) and median age (2003), have no partial effects on the local labour market.

The interventionist model (M2) for the explanation of the local unemployment rate, by contrast, clearly shows that local policy matters. A forward-looking seniors policy reduces unemployment by 0.57 % points (negative, significant effect), which confirms the *policy hypothesis*. The effect size of an active local family policy is almost twice as large and lowers the unemployment rate as much as by 0.92 % points (negative, significant effect).

The MFS model of local unemployment also fails to confirm the framing hypothesis, which reaffirms Kroneberg's argument (2011, pp. 145–147) that mistakes at this stage can be corrected later on. In regard to the *institutionalisation*

Table 11.2 Sequential regressions for the explanation of local unemployment ($N=505$). (Source: Our own calculations)

Predictors	M1	M2	M3	M1–M2	M2–M3
Intercept	12.09** (0.16)	13.00** (0.29)	12.65** (0.34)	−0.91* (0.24)	0.35 (0.18)
Population growth rate (1996–2003)	−0.25** (0.03)	−0.25** (0.03)	−0.24** (0.03)	0.00 (0.00)	−0.01 (0.00)
Absolute population change (1996–2003)	0.00* (0.00)	0.00* (0.00)	0.00* (0.00)	0.00 (0.00)	0.00 (0.00)
Mean-centred median age (2003)	0.16 (0.09)	0.14 (0.09)	0.16 (0.09)	0.01 (0.01)	–0.02 (0.01)
Labour market development (1998–2003)	0.01* (0.00)	0.01* (0.00)	0.01* (0.00)	0.00 (0.00)	0.00 (0.00)
Mean-centred population (2003)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
West or East Germany	9.87** (0.48)	9.70** (0.48)	9.57** (0.48)	0.17 (0.04)	0.14 (0.07)
Seniors policy		−0.57* (0.29)	−0.49+ (0.29)		−0.08 (0.06)
Active family policy		−0.92* (0.29)	−0.75 (0.30)		−0.17 (0.08)
Match of demographic frame			−0.53 (0.30)		
Activation weight of seniors policy			−0.58 (0.71)		
Activation weight of family policy			−1.30** (0.52)		
R^2	0.70	0.71	0.72	$F(\Delta R^2)$	
SEE	3.14	3.10	3.08	7.12**	3.19*

Legend: standard errors in brackets; *SEE*: standard error of estimates
+ ($\alpha < 0.1$), * ($\alpha < 0.05$), ** ($\alpha < 0.01$), not significant ($\alpha \geq 0.1$)

hypothesis, it is again only an unreflected, routine family policy that turns out to be statistically significant. If such a policy can be pursued in the AS mode in the absence of any process of negotiation (local governance), this reduces the unemployment rate by as much as 1.3%. Municipalities and local authorities that have a clear idea of their family policy are at a considerable advantage in terms of local labour market performance compared to similar towns and cities that do not. In the case of this exogenous attribute, the moderator effect predicted by the MFS can be observed as well.

The low practical and statistical significance of a similar municipal seniors policy ($N=22$) can again be attributed to a "floor effect". It remains to be answered if and how public discourse on "ageing as an economic factor" (Heinze 2011; Goldschmidt, Andreas J. W. 2009; Cirkel et al. 2006) has had an impact in this respect (Rademacher 2013, p. 250).

11.5 Conclusion

We conclude by summarising the empirical results of our sequential regression models and their underlying hypotheses against the backdrop of the theoretical triad of framing, coping and institution (Chap. 3). The following picture emerges:

Pars pro toto, our evidence speaks against the *demographisation hypothesis*. There is little empirical proof that demographic change has a direct impact on municipal budgets or local labour markets, as Mäding (2008a, 2009b), for instance, expects. Although the multiple regression models provide deeper insight into the weak bivariate correlations (see Fig. 11.3; see also Bertelsmann Stiftung 2014; Gatzweiler and Milbert 2009; Milbert 2011) between demographic and economic factors, the populationist models (M1) show no substantial demographic effects, with the exception of the partially negative effect of the population growth rate (1996–2003) on the unemployment rate. Population growth by 1 % point reduces the unemployment rate by a quarter of a percentage point. Population growth can therefore have a favourable impact on the labour market. This is so even though the reverse direction of causality would seem more plausible, considering that a favourable labour market provides a strong incentive for migration to a municipality. However, this view contradicts common demographisation assumptions (see Barlösius and Schiek 2007; Sackmann and Bartl 2008), which is why we did not test it here. Moreover, the available aggregate data does not lend itself to reconstructing the rationale behind residents' individual migration decisions without running the risk of falling victim to ecological fallacies. This question therefore remains for future studies to answer.

Instead of demographic factors, it is above all the control variables that have an impact in the two populationist models (M1). Structural discrepancies between East and West Germany remain the most influential factor, even 15 years after reunification. East German municipalities show poorer results on average than their West German counterparts. This holds true for municipal budgets and local labour markets alike. The procedures of calculation in kind that are applied in Germany's municipal fiscal equalisation scheme and, in this context, the weighting of populations (*Einwohnerveredelung*) and the aspect of centrality in particular have a non-linear logarithmic size effect on local fiscal capacity. This latter effect is in fact higher in larger municipalities, but the rate of increase declines as the population grows.

All of these findings together shed new light on the frequently described connections between population change and municipal budgets (Dransfeld and Osterhage 2003; Mäding 2008a, 2009b). The fiscal consequences are *not* the immediate product of demographic change but the result of an in-kind distribution of tax revenue, which in this case means per capita. The fact that the fiscal equalisation scheme fails to take population changes into account has repeatedly attracted criticism (Elster 2008; Falken 2009; Falken-Grosser 2010). Interventions of this kind always bear the risk of putting small, shrinking municipalities at a double disadvantage: as a consequence of the size effect and of demographic weighting of whatever kind (Rademacher 2013).

Institutions matter! And the fiscal equalisation scheme is possibly better than its reputation would suggest. We nonetheless have to concede that demographic changes influence changes in population levels over time. Here, too, matters are more complex than demographic discourse would have us believe. Most notably, they are more complex than what can be captured using the currently available data, which again opens up new areas of research.

The fact that the *framing hypothesis* could not be verified is not so much a matter of practical significance but rather one with consequences for theory formation. Contrary to the assumption that an appropriate frame always yields positive payoffs (Mayerl 2009, p. 240; Esser 2010b, p. 55), we must take Kroneberg's (2011, pp. 145–147) objection seriously that flawed choices in the course of frame selection can be corrected later on in the selection of scripts and specific lines of action. In future research, it will therefore not suffice to model overall payoffs in the MFS as a function of frame selection alone (see also Rademacher 2013).

Local population policy matters! The *policy hypothesis* has been impressively confirmed. Municipalities that actively engage in demographic policy have greater economic success. This holds for local family and seniors policy alike. We have shown that accounts of the demographic situation in German municipalities that fail to consider action by and within municipalities neglect key aspects (e.g., Kröhnert et al. 2011; Kröhnert et al. 2004). Evidence of encoding effects (according to Vanberg 2000, 2002, 2009) in line with the *institutionalisation hypothesis* could be found only in the field of family policy. It seems that at the time the Bertelsmann Foundation conducted the mayor survey (Bertelsmann Stiftung 2005), comprehensive experience had been gained only in the area of local family policy, whereas seniors policy was still at an early stage of development (Backes and Amrhein 2011). Of the municipalities in the dataset, only 22 had seniors policy routines in place. Since the growing phenomenon of ageing in East and West Germany has increasingly been moving the issue of the economic potential of ageing (Naegele et al. 2010) to the centre of public attention, we can nevertheless expect routines and related encoding processes to be evolving in this policy area as well. Empirical evidence for this, however, is a matter for future research.

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