

Accounting and Sweatshops: Enabling Coordination and Control in Low-Price Apparel Production Chains*

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1. Introduction

One of the defining aspects of globalization is the trade in manufactured goods, and among these clothing and textiles figure prominently. In 2010, global clothing and textile exports were valued at US\$602 billion, a figure that is expected to increase by at least five percent annually over the next five years (WTO 2012). The production of these goods is complex and increasingly draws independent companies together to form cooperative production-supply chains (Jones 2006). These chains, and the role of accounting within them, have begun to attract the attention of accounting researchers (cf., Francis and Garnsey 1996; Free 2007, 2008; Chua and Mahama 2007; Seal et al. 1999); however, little attention has been paid to global apparel chains, particularly those involving the production and sale of low-price apparel (see Jeacle and Carter 2010 and Islam and McPhail 2011 for an exception).

Low-price apparel production is itself an important domain of economic activity—sales of low-price products such as shoes and clothing within North America alone amount to more than \$150 billion annually. This industry also employs more than 20 million production workers, with the majority being located in the developing world (ILO 2010). These buyer-driven global production chains (Gereffi et al. 2005) link together the consumption of low-price products in North America and offshore production, enlisting and organizing a complex chain of participants in the assembly, transportation, distribution, marketing, and selling of these products. Yet, despite their economic and social importance, little is known about the positioning of accounting at the production end of these chains. While there has been some research on the accounting and reporting practices of low-price apparel retailers (cf., Jeacle and Carter 2010; Islam and McPhail 2011), the processes of controlling and coordinating low-price apparel production—and especially the role of buyer intermediaries in connecting the retail buyer and offshore production facilities—remain understudied.

A second motivation for the study is to examine how accounting works within interorganizational alliances that operate in uncertain business and legal environments. Prior research on joint ventures (Groot and Merchant 2000; Emsley and Kidon 2007), interorganizational alliances (Mouritsen and Thrane 2006; Caglio and Ditillo 2008) and supply chains (Seal et al. 1999; Chua and Mahama 2007; Free 2007) illustrates how accounting helps to organize economic activity across individual firm boundaries. However, this research has tended to

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concentrate on low-uncertainty settings where alliance participation is relatively stable and where the institutional context is mostly predictable. In contrast, low-price apparel production settings are characterized by fierce price competition and short delivery times, a large number of small production facilities, the constant emergence and disappearance of producers, and uncertain systems of enforceable property rights in the countries of production (Dicken 2003; Cammett 2006, 25, 28). This results in a situation where system-wide trust may be absent, which makes it more difficult for partners to maintain the alliance (Seal, Berry and Cullen 2004, 75). When the accounting numbers generated by the production facilities themselves are neither timely nor trustworthy, the situation is exacerbated. By focusing on a setting of high uncertainty and low trust, the study departs from the previous literature on supply chain accounting and interorganizational alliances, complementing, challenging, and extending this work.

The final motivation is to understand better how accounting practices are connected to the organization and operation of one type of factory that is commonly found in these environments, the sweatshop. In recent years there has been extensive academic and popular discussion of how large, global apparel retailers and brands have shifted their production to the developing world, often using production facilities where working conditions are inferior to those found in the developed world (Esbenshade 2004). However, and despite growing attention to the topic, little is known about the specific processes and mechanisms that organize the production chain and how these may contribute to constant pressure, long hours, low wages, and verbal or physical abuse in the workplace (cf., Poullaos 2004, 723). The current study proposes that the time, quality, and price pressures inherent in the market for low-price apparel are passed along from the retail buyer to the buyer intermediary and then to the factory owner, and finally, to individual workers on the shop floor. In these situations, participants at different levels of the production chain use accounting to meet their contractual commitments, thereby ensuring that low-price, acceptable-quality goods are produced and delivered on time. However, these uses of accounting also have the effect of replicating and reinforcing the power asymmetries that exist among production chain participants, with the result that accounting may even amplify the time, quality, and monetary pressures that characterize apparel production. In these ways, the study illustrates how the purposive use of accounting by production chain participants not only facilitates the production of low-price apparel but also affects production-floor workers in less visible, unintended, and sometimes deleterious ways.

The next section provides an overview of the pertinent accounting research. Section 3 outlines the economic sociology approach that informs the analysis. Section 4 describes the context of low-price apparel production. In section 5 we outline the research design and methods, while section 6 provides the case analysis. Finally, section 7 discusses the implications of the study.

2. Accounting for supply chains

Although supply chains have existed for hundreds of years, since the time of the East India Company (Lawson 1987), it is only recently that they have attracted the interest of practitioners and academics. Indeed, the term *supply chain management* only emerged in the early 1980s, and its use was initially limited to the description of activities within a single firm (Harland 1996), not the organization of activities across firms, as is the case today (cf., Seal et al. 1999, 304). Picking up on practitioner interest, accounting researchers have begun to examine different types of supply chains, including those of supermarkets (Francis and Garnsey 1996; Free 2007, 2008), fashion goods (Jeacle and Carter 2010), telecommunications (Chua and Mahama 2007), and electronics assembly (Seal et al. 1999).

The interest of accounting researchers in supply chains parallels the increased interest in accounting for interorganizational alliances more generally. Such alliances are assumed to be the consequence of accelerated globalization and competition, since “it has become increasingly difficult for any single [unallied] company to excel, and thus be competitive, in all aspects of a given business” (Groot and Merchant 2000, 579). As Chua and Mahama (2007) observe, “there has been a significant growth in the volume of longer-term intercorporate alliances, to the point that some writers now consider them to be a design necessity and not an option” (47). As well, part of this growth may be attributable to the development of improved information and accounting systems, which make it possible for firms to “increasingly organize their activities via networks” (Mouritsen and Thrane 2006, 241).

Within the prior literature, it is often assumed that accounting helps to coordinate and control the activities of different supply chain participants (Seal et al. 1999; Mouritsen et al. 2003; Seal et al. 2004; Chua and Mahama 2007; Free 2007). The cost information of suppliers and, less frequently, of buyers, is shared through the use of such techniques as open-book accounting (Kajüter and Kulmala 2005; Free 2008), common product costing (Mouritsen, Hansen, and Hansen 2001), and integrated cost-information systems (Francis and Garnsey 1996). These techniques aim to minimize information asymmetries among participants and are used throughout the supply-chain process, including at the supplier selection, preproduction, and production stages (Agndal and Nilsson 2008, 155). Information is extracted from financial records and then provided to other participants (160). Although at times the shared information is ad hoc in nature, often it is organized via pre-developed costing sheets that specify what information is needed (Kajüter and Kulmala 2005, 188). As Mouritsen and colleagues state, an open-book policy “leads to cooperation between firms situated in the supply chain” (2001, 225). Other authors go further and suggest that these accounting practices not only lead to cooperation, they also presume and help create trust among participants (Kajüter and Kulmala 2005, 183).

In regards to the current study, three aspects of this prior research are salient. First, this research highlights how contextual factors influence the organization and functioning of supply chains and how these factors dictate which accounting techniques are used. Supply chains operate in distinct competitive environments that impose certain competitive pressures on and imply certain logics of practice for those in the chain (cf., Kajüter and Kulmala 2005). Further, the supply chains themselves differ according to the number of participants, the characteristics of the product being produced, the financial and technical resources of each participant, and the supply chain’s history (cf., Chua and Mahama 2007, 55, 74). These contextual factors influence both the governance structure and accounting practices of the supply chain, sometimes resulting in a partial alignment among the nature of the industry, the characteristics of the alliance, and the type of accounting (Caglio and Ditillo 2008, 867).

Second, the research emphasizes the need to examine supply chain processes in order to understand when and how accounting is used. Chua and Mahama (2007), for example, show how social factors within the supply chain influence how accounting is imagined and utilized and how, in turn, accounting “acts back” on the supply chain itself (49). Similarly, Free (2007, 2008) adopts an explicitly processual approach in illustrating how political forces are important. Building on Adler and Borys (1996) as well as Ahrens and Chapman (2004), he suggests that there are moments when accounting can facilitate either the construction, maintenance, or destruction of a particular interorganizational relation (repair activities); contribute to the creation of local transparency or obscurity within the relations between different organizational participants (local transparency); encourage or discourage global transparency through the way that information moves across and is shared by supply chain participants (global transparency); and promote or hinder the relative autonomy

given to individual supply chain participants in the organization of their particular tasks (flexibility).

Finally, the extant research demonstrates the consequences associated with using accounting in certain ways. Relevant here is Free's (2007, 2008) discussion of the enabling and coercive aspects of accounting. A coercive orientation, in this context, refers to situations within the supply chain where accounting procedures are employed by one supply chain participant to "constrain and punish [other chain participants] rather than promote and support productive practices" (2007, 900). In contrast, an enabling orientation refers to practices that allow participants to use discretion and react to contingencies, in order to encourage joint problem solving and collaboration among supply chain participants (see also Ahrens and Chapman 2004). Free (2007) comments that supply chain relations, "become imbued with a coercive or enabling orientation" (898) that impacts both individual participants and the supply chain but remains invisible to the end consumer.

3. Production chains: An economic sociology approach

In this section, we start from the economic sociology perspective of Bourdieu (2005) to formalize and supplement the aforementioned insights. This approach emphasizes the importance of examining accounting in relation to both the institutional context in which a production chain is embedded¹ and the social positions that exist within the production chain itself. Like other institutionally-based economic and sociological perspectives (cf., Granovetter and Swedberg 2001), this approach provides a series of theoretical concepts that serve as a starting point for examining specific empirical settings (cf. Bourdieu and Wacquant 1992, 35).² In the remainder of this section, we outline the key concepts and indicate how this approach helps us to examine the use of accounting within buyer-driven apparel production chains.

Production chains are a collection of individuals and entities organized around a connected group of purposive activities. Moreover, within such production chains there is a specific configuration of *social positions*, a hierarchy of *capital*, and a shared *habitus* among participants (Bourdieu and Wacquant 1992, 97–100). Social positions emerge from the hierarchical distribution of tasks within the production chain; capital denotes the types of economic, cultural, and symbolic resources that are used and valued by participants; and habitus refers to a form of institutional memory or a "practical sense" that participants have internalized and that informs their ways of thinking, speaking, and acting (Bourdieu 1990, 54–57).

The idea of social positions recognizes that tasks within production chains are functionally distributed—being loosely organized around the accomplishment of discrete activities, such as finding resources, assembly, transportation, distribution, marketing, and selling (Gerreffi, Humphrey and Sturgeon 2005, 79)—and geographically distributed, in that the involved tasks are often located in different parts of the world (Gerreffi 2001, 1). In addition, while external factors shape the chain's general form, it is the relations among social positions and the actors occupying these positions that influence how the production chain works, including the ways that accounting is imagined, enlisted, and used. Production chains are cooperative endeavors in that participants come together to accomplish the production, distribution, and sale of a product, but they are also competitive endeavors,

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1. In the analysis that follows, we use the term *production chain* as opposed to *supply chain* to emphasize our focus on the production end of such chains. In some instances we use the term *supply/production chain* to denote the entire chain.
 2. Such approaches are both open-ended, in that there is an explicit recognition that the theory needs to be worked out in relation to a specific institutional setting, and modular, in that they leave space for and actively encourage the careful incorporation of other theoretical and empirical insights, albeit in ways that are consistent with the underlying approach (cf., Bourdieu 1989, 20).

in that alliance members must compete for scarce resources (Bourdieu and Wacquant 1992, 98). Influential social actors pursue their objectives *through* the production chain, using the strategies and tactics that they have at their disposal (115–30)—including accounting—whereas other members react and respond to these initiatives (Bourdieu 2005, 201). These reactions are also often cascading: participants respond based on the options that they see are available to them from within their specific social positions (196), and the strategic actions of influential members tend to trigger chain reactions that affect other members. It is these simultaneously cooperative and competitive interplays among chain members that give production chains their shape and form.

Not surprisingly, production chains are also characterized by a hierarchical distribution of capital. This distribution reflects the fact that different functional tasks require different skills and resources. However, some forms of capital are more highly valued than others; for example, within buyer-driven production chains, much of the influence tends to remain with the retailer, since it is the retailer who has captured the end client and thus has the economic capital to dominate the production chain (Cammett 2006). In contrast, there may be a multitude of factories throughout the world that can produce the product, so the factory does not have the same capacity to choose a business partner. This hierarchy of social positions (and capital) makes it easier for some members to exert influence over network practices than others (Gereffi et al. 2005, 82).

Production chains also reflect a dominant habitus. It is through habitus that the broader institutional context and the configuration and history of the production chain enter into the practices and actions of social actors (cf., Bourdieu 2005, 212), providing the economical basis of their action (213). Social actors think strategically and act instrumentally, but always in ways that are informed by their habitus. Consequently, their actions are intelligent responses to the objective conditions of the field, as understood from their specific social positions (Bourdieu and Wacquant 1992, 130; Bourdieu 2005, 210–11). As Bourdieu comments, social actors are “reasonable” in that they “have internalized, through a protracted and multisided process of conditioning, the objective chances they face” (Bourdieu and Wacquant 1992, 130). Following Bourdieu, we emphasize this idea of “reasonable,” rather than “rational,” action.

Within apparel production chains, presumptions about whether trust is possible and desirable are a salient part of the habitus. Trust refers to “the willingness of a party to be vulnerable to the actions of another party ... irrespective of the ability to monitor or control the other party” (Mayer et al. 1995, 712). In turn, trustworthiness refers to judgments about both the abilities of other production chain participants to perform their roles and their intentions to refrain from blatantly self-interested actions (cf., Free 2008, 633). These often unarticulated assumptions about trust and trustworthiness enter into the habitus via the previous experiences of alliance participants and partially reflect the objective conditions of the broader context (Bourdieu and Wacquant 1992, 130). As we will see in the subsequent case, these presumptions are important because they frame decisions about what accounting practices influential members attempt to introduce, how they use these practices, and how other participants interpret and react to these practices. For example, presumptions about the absence of trust (cf., Emsley and Kidon 2007, 829) can result in the use of collaborative techniques, such as open-book accounting, in noncollaborative ways (Seal et al. 2004, 75; Free 2007, 927).

An economic sociology approach encourages us to focus on three aspects of accounting practice within apparel production chains. First, we need to identify which members put accounting practices into motion (Hopwood 1987, 207) and gather, aggregate, and disseminate the related information; that is, the people who perform “gathering activities.” Sometimes these gathering activities are jointly initiated, in that all production chain members recognize the need to coordinate production and selling activities. Yet, they can

also be initiated by single influential members in the chain, such as retail buyers or buyer intermediaries, who engage in specific gathering activities that create a space of visibility (Hopwood 1987, 227) within the production facilities, thereby facilitating particular forms of control. Second, we consider when and how this information is used and how these practices are relied upon by different participants in their interactions with other members of the chain. We refer to these as “use activities,” which include coordination and control practices aimed at influencing the activities of other members in order to achieve certain ends. Finally, we focus on the consequences not only for individual participants but also for the organization of social relations within the production chain. We refer to these simply as “consequences.” In each of these areas, we consider (1) how the configuration of the production chain, including the various social positions within it, make certain types of accounting action possible, (2) how the habitus and presumptions of participants shape and inform the introduction and use of accounting, and (3) how accounting practices produce certain consequences for both individuals and the production chain itself.

4. Low-price apparel production

Low-price apparel production usually takes place within chains that are buyer-driven (Gereffi 1994). Retailers such as department stores and brand-focused apparel retailers sell large volumes of low-price commodities to the public. In the United States, for example, the five largest retailers (Wal-Mart, Sears, Kmart, Dayton Hudson, and JC Penny) account for almost 70 percent of all apparel sales (Gereffi 2001, 2). At Wal-Mart, domestic apparel sales amount to more than \$20 billion (Arlen 2002) of the estimated \$150 billion market. The size of these retailers allows them to exert significant influence within the chain.

Low-price apparel retailers segment their product lines into “commodity” and “fashion” products (Cammett 2006, 31). Commodity products vary by season and the length of the product planning and production cycle is often months, which allows retailers to search globally for the lowest prices. In contrast, fashion items are characterized by small production runs and short planning and production cycles—weeks as opposed to months—and the emphasis is on getting a particular product to the market as quickly as possible. Cammett comments that, “availability at the right moment is more critical than price for some items” (2006, 32). Moreover, “sourcing decisions in these different categories involve trade-offs between geographic proximity, which reduces time elapsed from order to market, and low wage overseas production, which reduces labour costs” (32). These factors, along with the removal of worldwide tariffs and apparel quotas in 2001 (Mayer 2004), encouraged North American low-price retailers to produce commodity products increasingly in Asia and fashion products in Central America. U.S. import data shows that China’s share of American apparel imports increased from 9 percent to 40 percent between 2002 and 2009, whereas imports from the block of Central American countries (El Salvador, Guatemala, Honduras, Mexico, and Nicaragua) fell from 26 percent to 11 percent (International Trade Administration 2011).³ In the country that we examine, apparel exports to the United States fell by more than 25 percent over this time period.

Although low-price apparel production chains may use a variety of organizational models (see Cammett 2006), the one investigated in the current study is an intermediary-subcontracted production chain (note 5, 43). In this model, the apparel retailer contracts with an intermediary to provide a certain quantity of low-price items by a fixed date at a fixed price. The apparel retailer provides the intermediary with the design and product specifications and, at times, also the materials. The intermediary purchases the materials if they are not provided, selects a group of production facilities in a particular geographic

3. The data indicate that the total amount of apparel imports in 2009 was more than \$20 billion.

location, and then provides these production facilities with a preset amount of precut materials. The intermediary is also responsible for maintaining production-related electronic data that then feeds into the retailers' sales systems (Cammett 2006, 32). Once production is finished, the intermediary ships the items either to the retailer or to prearranged retail outlets. These items are often floor-ready—they contain stock-keeping unit tags (SKUs), etc.—and the retailer can immediately begin selling them. Table 1 summarizes the key roles of the members of this type of production chain.

Regardless of the exact organizational arrangement, high levels of uncertainty characterize low-price apparel production. First, the tight production deadlines and low (factory owner and intermediary) profit margins place a great deal of pressure on the chain's participants. However, because apparel retailers occupy a preferred position within the chain, they are able to transfer most production risks to the intermediary and, ultimately, to the production facilities (Cammett 2006, 30). Risk is passed from the apparel retailer to the intermediary via written contracts that involve low profit margins on the produced goods and high financial penalties for failing to deliver the contracted products on time. In turn, the intermediary uses similar techniques to transfer the risks to the production facilities. Also, the intermediary often divides the production among a number of facilities to ensure they deliver on time and avoid financial penalties.

This said, there are limits in terms of how much risk the intermediary can pass along. Intermediaries search out production facilities within a particular geographic area that are willing to accept the lowest possible contract price. The facilities chosen are often small owner-operated factories that must find ways to lower labor costs, since they are in the business of "selling sewing minutes" (cf., Cammett 2006, 35). However, the nature of these production facilities makes it difficult for the intermediary to completely avoid risk, as producers can simply go out of business if the financial penalties are too great or if they are incurring losses on the contract. This results in high levels of uncertainty for both the intermediary and the factories.

These institutional features result in a logic of practice in which time, quality, and price pressures are transferred along the chain and in which individual participants adopt the strategies and tactics at their disposal in an attempt to prosper or, more often, survive. To the outside observer, such production chains may not appear to be sustainable over the longer term, yet factory owners and their workers continue to participate because, from their vantage point, the apparel production business is one of the few games in town, so to speak (cf., Bourdieu 1999). As the subsequent case highlights, immediate monetary concerns and the perceived absence of alternatives encourage individuals to accept these pressures.

TABLE 1
Key responsibilities of low-price apparel production chain actors

End Retailer	Buyer Intermediary	Factory Owner
Provides product specifications, delivery date, contract price, and, at times, the fabric	Selects production facilities and determines contract price that facilities will receive	Arranges production line
Arranges for final quality inspection when shipment is received	Sources and provides fabric if not provided by End Retailer	Controls internal production and quality aspects
	Coordinates and controls production among factories and within individual factories	
	Inspects garment quality	
	Arranges final delivery	

5. Method

Our decision to investigate the field of low-price apparel production was, in part, serendipitous. In early 2006 one member of the research team was in Central America working on another research project. Newspapers and people in the street were discussing the hard times that the apparel assembly industry was experiencing as a result of North American retail buyers shifting their production to Asia to take advantage of lower labor costs. These discussions often mentioned the precarious and pressure-filled nature of the business: people spoke of the declining prices paid by retail buyers, of factory owners forced to ask more and more of workers, and of factories shutting down because they could not pay their bills.

These discussions motivated a series of preliminary interviews about the nature of accounting controls within low-price apparel production facilities. An acquaintance introduced us to a group of five female apparel workers who lived in a working-class barrio on the outskirts of the country's capital city. Three of these women worked in a factory, and two worked for a buyer intermediary. Of the latter, one was the manager in charge of selecting and monitoring production facilities and the other was a production and quality "auditor". These initial interviews encouraged us to change our focus slightly as it was suggested that it would be impossible to understand production-level controls without examining the pivotal role played by buyer intermediaries in these processes.

Starting from the introductions of the two women who worked for the buyer intermediary and using a snowball sampling approach (Biernacki and Waldorf 1981), we were able to identify and interview thirty individuals who had participated in one particular production chain. The snowball sampling approach also resulted in interviews with 11 individuals who had not participated in the focal chain; but it is important to note that, within this context, production chain membership is both fluid and permeable. It is fluid since factories are selected by the intermediary from a pool of available factories for the specific order, and there is no guarantee that they will be selected for future orders. It is permeable in that factories will sew for any end-retailer or buyer intermediary that will give them work. The latter group of respondents helped us understand the broader context of low-price apparel production from this particular geographic site. The interviews also suggested that the practices across different buyer intermediaries were similar. Table 2 provides descriptive detail about the interview participants.

Consistent with our theoretical framing, the development and analysis of the case involved a sequential research approach (Oakes et al. 1998, 266; Everett 2002, 70) consisting of both theory-directed and emergent research methods (Everett 2002, 74). Over the period of 2006–12, we visited the research site nine times. During these visits, we interviewed a variety of participants and spent time on the production floors of different facto-

TABLE 2
Summary of interview participants

Category of Participant	Number of Interviews	Average Interview Length
Buyer Intermediary Staff	8	50 minutes
Factory Owners	11	40 minutes
Factory Supervisors and Operators	12	40 minutes
Union Representatives	4	55 minutes
Other Participants	6	40 minutes
Total	41	43 minutes

ries, documenting accounting practices, asking how participants understood these practices, and then reflecting upon how these practices and understandings related to the institutional context.

After each research trip the interviews were transcribed and entered into Atlas.ti, and different members of the research team read the materials and added their initial observations and coding suggestions to the file.⁴ These notes were used to develop a list of thematic categories. They also inspired additional interview questions and helped us to decide whether additional interviews were necessary (Biernacki and Waldorf 1981, 155–56; Denzin and Lincoln 2000, 25–26). We continued this process until we reached a saturation point where the additional interviews neither contradicted the developed understanding nor added any significant new information (Biernacki and Waldorf 1981, 157). This saturation point was reached in February 2010, when we finally had the chance to interview the former country manager of the buyer intermediary.⁵ Although we had previously corresponded with this person via email, it was not until he had changed employers that he was willing to speak with us. To protect the identity of the participants, we do not provide any information that can be used to identify the buyer intermediary. In the analysis that follows, we do, however, provide interview numbers and page references within the interviews, to provide an audit trail of our analysis and findings.

6. The case

Placing the production

The production process starts with an email from the intermediary's head office in Los Angeles, which states that there is an order pending, and this is sometimes followed by a phone call. At this time, the intermediary staff is provided with the general style, delivery deadlines, and other production details, such as the maximum per unit cost and whether they will be provided with the necessary fabric or whether they will need to purchase it. This information allows the intermediary to begin looking for potential factories:

They call to tell me when the order of a particular style will arrive and that it must leave in three weeks. I tell them that we can't produce it in three weeks but in four, depending on the style. In this way I have an idea of what is coming. (I-3, 15)

The above quote highlights the short deadlines that the intermediary typically faces. Short delivery deadlines impose unique constraints on the production process. For example, the production runs are both smaller and have tighter deadlines than those that characterize commodity-style, low-price production:

We don't have large volumes. The large factories have production runs of 100,000 pieces whereas our production runs are a maximum of 30,000 to 40,000 pieces, and apart from this our 30,000 pieces must be produced in one month and not three months. Therefore we must take this order and divide it among different factories. (I-3, 19)

The tight deadlines make it more difficult for the intermediary to place the production order, because she has to find factories that not only have the ability to sew the product but that also have immediate excess capacity.

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4. The interviews and transcripts were in Spanish whereas the observation and coding notes were in English. The quotations used in the manuscript were first selected and later translated by the first author. The translations were later checked by someone who was not a member of the research team for literal and contextual accuracy.
 5. We conducted several interviews after this date to help us to finalize the manuscript and to respond to reviewer concerns.

When looking for factories, the intermediary relies on her or his knowledge of the pool of available factories, including any previous experiences with individual factories. The intermediary then undertakes a series of calculations to determine the daily production capacity of each factory. This calculation considers the likely number of sewing operations in each piece, as well as the number and type of machines that the factory has available. For example, sewing a simple t-shirt involves seven distinct operations and three different types of sewing machines, whereas sewing a pair of pants involves more than 40 operations and at least six different machines. After calculating average production capacity, the intermediary adds additional time, since there is always a learning curve involved in getting up to speed (I-3, 16). Additionally, since the intermediary believes that factory owners often overestimate their production capacities in order to get the contract, the intermediary is careful in assessing capacity and dividing up the work, even if a single factory could theoretically sew the entire order:

There are people who tell me that they can produce 20,000 pieces of this style and I ask them; how can 12 operators produce this quantity? I have never worked with them and I don't know their capacity but I can consider the total number of operations involved in the piece, given that I have myself sewn a sample. On this basis, I might send them 12,000 pieces and I put the rest elsewhere since they can't possibly complete the entire 20,000. (I-3, 17)

This illustrates the connections between field and habitus, or the context of low-price apparel production, the presumptions made by the intermediary that factory owners will not be trustworthy (because of the difficulty in meeting the production deadlines), and the adoption of defensive strategies by the intermediary.

During the placement process, the intermediary also attempts to strike a balance between the costs of monitoring, transportation, and sewing. On the one hand, it is easiest for the intermediary to place all of the production in a major urban area (in this case, the country's capital) or a single geographic area. This minimizes the logistics both of moving the physical product and of supervising the production process. On the other hand, production costs are lower outside of urban areas, since there is a different market for labor in rural areas (I-3). For these reasons, the intermediary usually places a portion of the production in rural areas.

The preceding illustrates that the production placement decision on the part of the intermediary is the first step in ensuring that the production leaves on time, since a miscalculation by the intermediary regarding the production abilities of the factory will make it difficult to meet deadlines. While the intermediary may request that the factory owner "open their books" and share historical production information to assist in the supplier selection decision (Agndal and Nilsson 2008, 159), this does not occur. Instead, the intermediary makes certain presumptions about the context of low-price apparel production, presumptions that motivate the intermediary to adopt a series of defensive practices, including the independent gathering of information about production capabilities, the addition of a time buffer, and the division of production among different production facilities. As later sections highlight, the practices adopted by the intermediary during the actual production phase make it less necessary to trust the information provided by the factory owners.

Cost and pricing calculations

In theory, the production facility can negotiate a price with the intermediary; however, this does not usually happen. Over the past ten years, more and more low-price apparel production has moved from Central America to Asia, and consequently there is excess

capacity within the Central American industry. Thus, factory owners are willing to accept contracts simply to keep their facilities open (Central American Business Network 2008; International Trade Administration 2011). In addition, those who have a client—in this case the intermediary—have a powerful bargaining position (I-13, 1). As a result, factory owners often feel compelled to accept any contract, even if the price is insufficient:

What happens is that we don't have work and the end purchasers don't come directly to us so we have to grab what we can. Look, they are paying us \$6 dollars per dozen and I have to accept the order to simply keep the factory open and to keep the people working. (I-11, 6)

In talking with the owners, we learned that the majority did not go through the practice of formally attempting to “cost” the contract. Instead of trying to calculate the time per operation and the total time per unit, the owners tended to work with a heuristic number for total daily production, which was based on past experience:

They bring me the sample and they tell me, for example, that there are 300 dozen and that they need them within ten days. I know that I can produce 50 dozen per day and on this basis I say yes or no. (I-9, 1)

Many of the owners with whom we spoke indicated that they tended to specialize in a particular type of product (e.g., women's blouses). On this basis, they knew how many pieces their factory could sew daily and the approximate per unit labor cost.⁶ This allowed them to assess whether the contract price exceeded the expected labor cost and by how much. In addition, although the factory owners did not explicitly articulate these decisions using economic concepts, the economics of the situation informed their ideas about reasonable action. Thus they “knew” that they were price takers, in the sense that they had no negotiation space (I-13, 2). In this context, precise calculations were less important than simply deciding whether the contract price would cover labor costs.

Nonetheless, the combination of circumstances, along with informal costing practices, at times created problems for factory owners. One owner, for example, commented that the multi-style products⁷ demanded by the intermediary made it difficult to achieve maximum daily production levels—because of the recurrent learning curves involved—which, in turn, made it difficult to meet production deadlines and earn a profit on the orders:

This is one of the problems that we have in that they pay very little per piece and there are a great variety of different styles that change constantly. As a result, we have to go through a learning curve with each style and this is what results in losses. We know how to price the styles but what is happening is that we cannot charge the appropriate amount since there isn't much work around. (I-12, 1)

These comments on pricing and costing reveal some of the realities of low-price apparel production, as understood by factory owners. Despite the fact that the intermediary faces time pressures in finding production facilities that are available to produce on short notice, the excess capacity of factories in the industry means that factory owners still occupy an inferior social position vis-à-vis the buyer intermediary. Perhaps for this reason, the costing practices of the owners are less detailed compared to the buyer intermediary

6. Primary variable costs are the sewing costs along with thread and electricity costs.

7. Multi-style products are those where the product is ‘changed’ by changing the finishing details—for example offering different types of collars (i.e., a scoop or v-neck) or sleeves (i.e., straight or balloon style).

and end retailer (I-5), since their only real decision is based on whether or not the order will cover labor costs. At the same time, this vagueness in costing creates potential problems, since the production of new styles and multi-styles always involves more time than estimated. However, knowing how to price does not matter if there is always another production facility that is willing to do the work for the offered price (I-12, 1). Consequently, factory owners often accept the contract as is and then try to find ways of lowering per-unit sewing costs and extracting additional sewing minutes from the women on the shop floor. From the outset, the owners are aware that they are taking a risk in accepting the contract and that they will have to “poner pilas” (“put on the juice”) if they do not wish to lose money on the order. Interestingly, it was this inherent “optimism” about being able to “put on the juice” and successfully complete the order that led the buyer intermediary to assume that the factory owner was overstating their abilities. As we will see in subsequent sections, “putting on the juice” involves putting more pressure on production workers in an attempt to extract additional sewing minutes.

Hands-on control at the factory

Supervision is carried out by the owner with the help of line and quality-control supervisors: the line supervisor oversees the production process, and the quality-control supervisor is in charge of quality control and packaging. The number of line supervisors depends on the number of machines, as well as on the amount of control that the owner wishes to maintain. For example, and as one participant commented, “a line supervisor has the ability to observe 25–30 machines, and if she observes more, something always happens” (I-3, 9). This said, the owner tends to be very hands-on in all production and quality matters, regardless of the number of supervisors (I-3, 7).

Most factories start production by trying to organize the process. In the majority of cases, the apparel comes in packages with a set number of pieces.⁸ The number of pieces and the style itself are suggestive of a certain production order, but there are still decisions to be made as to how many operations are to be carried out by each machine operator (I-9, 1). After deciding on a production order, the next step is to calculate production standards for each operation. One owner explained that she selects an operator who is neither the fastest nor the slowest and then asks the operator to sew a number of pieces:

I ask the person to sew six pieces while we are watching so that we can measure the time. We then use this time as the standard that we will expect from the other operators. (I-11, 3)

The information from these rudimentary time and motion studies (Taylor 1911) is used for three purposes: to decide how many machine operators are needed, to set daily output quotas, and to “balance” the production line so that each operator has a similar quantity of work. This information is not used to cost the order, and consequently no cost information is used to accept or reject the order.

Once the production order has been set and the daily output goals determined, control efforts focus on production quality and speed, with a secondary emphasis on the physical control of the apparel pieces themselves. For example, when the production passes through an operator, the person notes on her or his individual production report what

8. The factory owner has someone count the bundles. If, during the sewing process, production staff discover any missing bundle pieces, they inform the production supervisor. The production supervisor will then check to make sure the piece is not simply “misplaced” (because it was ruined during sewing) and will later inform the intermediary.

was done. This information provides the basis for controlling quality as well as for physically controlling the pieces. One of the line supervisors noted:

Each operator has a report page where they put their name, the operation that they are doing and the package numbers that they work on. If I see a bad piece I can review the reports to see who sewed it. I then talk with the person and we disassemble the piece and re sew it. (I-20, 2)

The quality-control supervisor uses this information in a similar manner (I-21, 2). These comments illustrate how individualized production information is used to control quality by providing supervisors with a way of immediately intervening when there are problems.

In terms of assessing production speed, all of the factories that we visited used “bi-horales” (bi-hours); every second hour, the line supervisor would visit each operator and note the quantity of pieces completed in the previous two hours. Additionally, some of the factories would use a mechanical device on the machine to track production speed; in these factories “there is a mechanical device on each machine where every time the operator sews a piece, they simply move a finger and the device records it” (I-3, 10). From our observations and from the interview comments, we gathered that bi-horales information serves three purposes. First, it allows the line supervisor to decide whether it is necessary to rebalance the production line when a particular operation is taking longer than initially calculated. Second, the line supervisors use the information to exhort the operator verbally to increase production speed. And third, it provides the operators themselves with a visible reminder of the importance of maintaining or increasing their production speed.

The visibility of production speed was also communalized across production “teams” (cf. Ezzamel and Wilmott 1998). For example, some of the factories maintained a whiteboard at the end of each production line containing real-time production information:

At the end of each production line there is a whiteboard with the daily goal and how many pieces the line needs to produce every two hours. Every time a batch of pieces are completed, someone writes on the whiteboard. The operators can see whether they are reaching the goal or falling behind. The supervisor then uses this information to put pressure on the line to sew faster. At the end of the day, they can see the global data on what they have produced. (I-8, 7)

Not all factories used this visual reminder. However, it was obvious that this scorekeeping was happening, either visually or verbally. There was almost always a sense among the line workers as to “where they were,” which is to say that scorekeeping enabled transparency in the factory (Adler and Borys 1996). This awareness was expressed not only through the explicit comments of the line supervisor (“we have to work faster”) but also through her tone of voice, the amount of attention that she paid to individual operators (supervisors often hovered over operators who were causing a bottleneck), and her more general mannerisms.

In some of the factories, the importance of the communal information was formalized by making each production line responsible for overall production. Members of the “team” were not allowed to leave until the production goal was achieved:

There are eight people and everyone knows how to do all of the operations. The factory owner gives the production line a production goal, let’s say 700 pieces per day, and she then pays the production line a certain amount of money to produce the 700 pieces. Everyone is responsible to ensure that the goal is met, from inspecting the pieces to

cutting the thread endings, and the people don't leave until they have achieved the production goal if they want to earn what they have been promised. (I-3, 11)

In this mode of organization, if there is a delay in one operation, other operators try and pick up the slack. This results in a situation where the operator is placed under pressure by both the supervisor and the other members of the production team (I-3, 11).

The provided description illustrates a production process that is similar to low-price apparel settings where there is no intermediary (I-19). The factory owner, in conjunction with her staff, has the flexibility to organize the production process as she sees fit. In turn, production information is gathered both by the operators themselves and by line supervisors and is used almost immediately in an attempt to speed up production and correct quality problems. This information is shared with the production line—via the whiteboard at the end of the line or through verbal communication—as a way of encouraging the production line to work faster and in order to exert pressure on operators who are not working at the desired pace. However, these control processes are not independent of the activities of the intermediary, in that he or she is also simultaneously monitoring speed and quality within the factories. The next sections highlight how the activities of the intermediary intersect with those of the factory, and how this intersection compounds pressures on the shop floor.

Monitoring production

The buyer intermediary is the link between North American retailers and the production facilities. The Los Angeles head office of the buyer intermediary accepts orders from retailers and then communicates the details to the field office, including the maximum price that the buyer intermediary is willing to pay (I-5).⁹ The field office staff is then responsible for selecting production facilities and for ensuring that the production leaves on time and has the appropriate quality level. To accomplish these tasks, the buyer intermediary uses a series of discrete monitoring practices that are carried out by a team of production and quality “auditors” under the supervision of a production/quality manager, and by a country manager who liaises with the Los Angeles head office. Table 3 provides an overview of the daily and weekly activities undertaken by the intermediary.

The production and quality auditors are the primary point of contact with the individual factories, and they usually visit them on a daily basis or at least every second day. The production portion of the auditors' responsibilities consists of gathering, checking, and reporting to the production/quality manager the production numbers, and this is done on a daily basis:

It is our responsibility to deliver everyday to our supervisor a report of daily production at each factory. This helps us to know whether the production will leave on time. (I-7, 6)

The production/quality manager, in turn, collates the information that is received from the auditors about the different factories, and maintains a report of daily production by job order (I-3, 3).

In explaining and making sense of their daily activities, the staff from the buyer intermediary emphasized the importance of “direct verification.” For example, the auditors stated that their primary task is to “verify the numbers”:

9. The difference between the price paid by the end retailer and the costs incurred by the buyer intermediary, including sewing costs, is the buyer intermediary's profit.

TABLE 3
Intermediary activities

Intermediary Role	Daily	Weekly
Country Manager	Liaise with Los Angeles head office	Participate in team meeting
Production/Quality Manager	Prepare cumulative production report by job order Provide verbal status report to Country Manager	Participate in team meeting Prepare cumulative production variance analysis Prepare average per order costing analysis on purchased materials Communicate any concerns to factory owners and discuss remedial measures
Production and Quality Auditors	Direct verification of production numbers Review production quality and prepare quality report for Production/Quality Manager Provide daily production report by factory to Production/Quality Manager Liaise with factory owner about production speed and quality	Participate in Team meeting Provide input and observations to supplement the gathered materials

If we cannot visit a factory for some reason, we call the owner by telephone to get the production information and the subsequent day we visit to verify the numbers and to see what is being packed. (I-2, 2)

The production/quality manager also talked about direct verification, stating that direct verification of production numbers is necessary, since the production facilities sometimes manipulate the numbers in order to minimize pressure from the intermediary (e.g., they might count items in process along with those actually packed).¹⁰ To guard against this deception, the production/quality manager reconciles the received production numbers daily, and this involves comparing the cumulative numbers entered into the production process with the number of packed pieces:

Often the owners tell me that they have produced, for example, 700 pieces and when I go to reconcile the numbers, the numbers don't agree. I have to be careful because they often report that things are completed when they are not. Quite often people lie. (I-3, 15)

These comments highlight the linkages between the habitus of the buyer intermediaries—specifically, their presumptions about trustworthiness, the practices of directly gathering and verifying production information, and the subsequent sense-making activities of the buyer intermediary staff.

While the daily collation of production numbers provides the intermediary with a sense of how production is going, intermediaries also carry out a more formal and

10. This response on the part of the factory owner is reasonable, reflecting a forced optimism that tomorrow's production numbers will be better and that it will be possible to catch up to the cumulative production quota.

intensive evaluation once a week. This occurs at a meeting involving all of the auditors as well as the production/quality manager and the country manager:

We have meetings every week, either all day Monday or Saturday. We start at 8 a.m. and bring with us all of our papers—the daily visitation reports, production numbers, costing reports, size measurement reports—and anything that was asked for. Everyone is there including the country manager. We go through style by style, production report by production report, and client by client. (I-7, 1)

Within these meetings, the gathered information is used to assess the current global situation across all of the factories and predict whether the production deadlines will be met. For example, simple forms of variance analysis are utilized to assess whether production is on schedule or whether interventions are necessary (I-7, 2). Likewise, on orders where the intermediary is responsible for buying and supplying fabric and other materials, an analysis of the cost per unit is prepared, since this cost depends on the cost and yield of the purchased materials (i.e., how many t-shirts are cut from a pound of fabric and at what cost). The combination of production and costing information helps the intermediary to control different aspects of production.

Any concerns that emerge from the meeting are immediately communicated back to the factory owner. If the intermediary is concerned that the production will not be completed on time, the production/quality manager will go and talk with the factory owner and they will discuss possible remedial measures. Solutions might involve working extra hours or adding another shift. In extreme cases, the intermediary might consider pulling a portion of the assigned production and allocating it to another factory.

These post-evaluation communications often involve implicit and explicit threats by the intermediary, in an attempt to encourage action on the part of the factory owner. For example, one intermediary agent states:

Look, I tell them, this production must be complete in one month, and if you don't deliver it in one month we have a contract, and the contract says that if there is a delay that is the fault of the factory, and then the goods must be shipped by plane and the factory is responsible for paying the freight. (I-4, 1)

Given that airfreight can amount to more than 50 cents per piece (based on weight), this is a significant penalty, since this amount may be more than what the factory owner actually receives for sewing the piece. It is through such communications that the factory owner is reminded of existing time pressures and of the financial penalties associated with late delivery.

This threat can also take a more extreme form, as it is possible that the end client will cancel the order if it isn't received by a certain date:

The factory owners know that if they don't send the product by a certain date, there are certain styles that will simply be cancelled. If the client cancels the order because it wasn't shipped on time, the client can discount the entire cost of the product. (I-8, 4)

In these cases, the factory owner will not receive payment for the work done, since the contracts specify that no payments are made to the production facility until eight days after the shipment has been delivered to the intermediary (I-13, 4). This timing delay can result in a situation wherein the production facility has delivered the shipment late to the intermediary and then they are informed that the client will not accept the order. In these

situations, the factory owner may be forced to close the business because she cannot pay her workers (I-13, 3).

Reminders and implied threats are used in many supply and production chain situations (Seal et al. 2004, 79; Vosselman et al. 2009, 271), but the distinction is that, within low-price apparel production chains, there are extreme power asymmetries. These power asymmetries not only result in risks and pressures being moved along (from the end retailer to the buyer intermediary to the factory owner), they also create a situation where the buyer intermediary can exert influence over the production facility through such threats. In these circumstances, the threats themselves become a practice of control (Collinson 1992, 213). Not surprisingly, such reminders and threats do not encourage the development of feelings of collaboration and trust among participants (cf., Collinson 1992, 134; Seal and Jones 1997, 409), instead contributing to a coercive orientation within the production chain.

This section connects three of the important themes of the current study. First, it shows how the context of low-price apparel production reflects and reinforces a particular habitus and presumptions about the untrustworthiness of factory owners. This untrustworthiness does not encourage intermediaries to place themselves in a vulnerable situation (i.e., to trust others) rather, it motivates an “intelligent response” (Bourdieu 2005, 210–11), namely, the direct gathering and/or verification of all information. Second, it illustrates how the buyer intermediary’s monitoring practices embody a particular logic of practice (the practices are reasonable given the context of low-price apparel production) that individual auditors enlist to make sense of their own actions. In this regard, the linkages among the context of low-price apparel production, the dominant habitus of those within the production chain, the prevalent control practices, and the sense-making activities of the auditors are circular and self-reinforcing. Third, it highlights how the practices of the intermediary (both in terms of information-gathering activities and specific intervention activities) impact activities within individual production facilities. The combination of communication from the intermediary, including implicit and explicit threats, and the existence of significant financial penalties places pressure on the factory owner and creates a situation where the factory owner will do *everything* possible to ensure that the shipment leaves on time. This generalized time pressure is communicated downward from the factory owner to the line supervisors and, ultimately, to production workers. The next section examines how quality issues intersect with these concerns over production deadlines.

Quality issues

Controlling quality is the second primary responsibility of the auditors. During their daily visits to the production facilities, they are required to review a sample of finished pieces and fill out a report on their findings:

We have a format that we use to make observations about the quality of the production process. We note the name of the client, the name of the factory, the style, etc. and here we put all of our observations as well as various suggestions for ways to overcome any observed problems. We then give a copy of this report to the factory owner. (I-8, 3)

As the quote highlights, this report includes both the identified problems and “recommendations” as to how the problems might be resolved.

This quality report is the first of a series of interventions by the intermediary that relate to the quality aspects of the production process. On the day following the report’s submission, the auditor reexamines a sample of finished pieces with a particular focus on

the previously identified problem area. According to the auditor, the act of providing a quality report and rechecking the problem area ensures that the factory is “pendiente” (i.e., paying attention) and focused on resolving the problem:

The next day often the problem has disappeared because sometimes the problems are easy to solve but sometimes we observe the same problem because of negligence on the part of the operator. The report helps the owner to be aware of the problem and to intervene immediately to fix it. (I-8, 3)

As the individual noted, often this is enough to ensure that the quality issue is resolved.

The auditor provides a written report and a verbal summary to her supervisor on a daily basis. The supervisor then uses this information to decide whether further intervention is necessary. If it is decided that the quality problems are significant, the supervisor will talk with the factory owner and ask that production be stopped until the problem is resolved:

When there are problems and we have identified the same problem on two consecutive days, I tell the factory owner that we are obliged to stop production and that they cannot restart until we have solved the quality problem. As I said previously, we give them alternatives and ways that they can change the production process and solve the problem. We cannot wait until all of the production has been sewn incorrectly and when we are ready to ship to run around and try to correct the problem. (I-8, 3)

The factory owner has no option other than to stop production, because the implicit threat is that the intermediary will not accept the completed production. This threat is almost always heeded because, as mentioned previously, the factory owner will not receive payment from the intermediary until after the entire production run is completed. Failure to stop the production and correct the problem jeopardizes the receipt of payment from the intermediary.

These quality-related interchanges highlight the intermediary’s ability to intervene in the production process. On one level, this intervention occurs directly on the shop floor, as the auditor examines finished pieces and speaks with individual operators; but on another level, the intervention occurs between the intermediary and the factory owner who, in turn, puts pressure on line supervisors and individual operators to fix the defects. For the factory owner, these quality discussions result in a “no win” situation, since higher quality often involves sewing slower and returning more pieces for repairs (I-15). As we will discuss further, these concerns are passed down to the shop floor; operators are pressured to both sew faster and make fewer errors.

When the production is nearing completion, the intermediary will conduct a final quality audit. The end purchaser provides the intermediary with acceptable quality level (AQL) standards that are then used to assess quality. The AQL table for a particular purchaser will specify how many pieces in a particular sized production lot must be reviewed and the associated “pass” levels (I-3, 21). However, while the AQL table specifies the number of acceptable errors per production lot, the intermediary always uses a slightly more stringent calculation than the end buyer will use, revising downward the number of pieces at which the batch will be rejected (I-3, 21). This is to ensure that there will be no problems when the shipment arrives in the United States.

Whether or not a production lot passes often depends on the negotiations that take place between the intermediary and the factory owner since what constitutes a “bad” piece

is somewhat subjective. In the face of this subjectivity, the intermediary often passes the risk along to the factory owner. After negotiating with the factory owner, the intermediary may decide to pass along the production lot and wait to see whether there are any complaints from the end retailer. As one of the auditors commented, “the larger factories have the mentality that they will deliver on time at all costs in order to not pay airfreight” (I-8, 16). Another noted that some of the larger factories will “send seconds, send pieces with uncut threads, send whatever they can so as to not miss the shipping deadline” (I-3, 25).

Although the auditor for the intermediary may pass the production and the shipment may leave on time, the issue of acceptable quality remains unresolved until the end retailer accepts the shipment. As the quality manager for the intermediary comments:

The client does their own audit and if they reject the shipment we are screwed. Quite often the client inspects the shipment and quite often they send it back to our warehouse in Los Angeles for further inspection and repair. (I-3, 23)

If the shipment is returned to the warehouse, the entire production lot will be inspected and the factory owner will be charged with the cost of both the revisions and any repairs. These industry practices result in a situation where the factory owner assumes the financial risk associated with unacceptable quality.

Not surprisingly, the factory owners often felt that these reinspection charges were capricious and merely a way for the intermediary to “claw back” payment. As one owner commented:

With this intermediary, three years ago we had a problem where they discounted us \$5,000 to \$6,000. To this day, I don't think that it was the end client in the United States but rather the staff of the intermediary working here. We had a similar experience with this staff member previously where [s/he] discounted us \$1,500. (I-13, 2)

However, since the product will be in the United States by the time the factory owner learns of the charges, there is no way for her to dispute the finding or correct the problems herself.

These observations about the inspection process highlight some important aspects of low-price apparel production. First, they illustrate the objective hierarchy that exists within the production chain. The retail buyer occupies the dominant position and can reject the shipment and demand further inspection and rework, while the buyer intermediary occupies a secondary position but still has the ability to pass the extra costs along to the factory owner. This hierarchy means that the risks and costs associated with production are moved toward the production end of the chain. Second, it shows how auditing practices, such as the final inspection process, both reflect and contribute to the lack of trust among participants. Since individual factory owners do not have the financial resources to have a representative be physically present in Los Angeles, they feel vulnerable and do not trust the inspection process. At the same time, the intermediary views the production process as a zero-sum game, where factory owners will lie and send substandard garments if they can get away with it. Consequently, the intermediary does not necessarily want the factory owner to be able to participate in the final inspection process. From his or her vantage point, allowing this participation only provides factory owners with information that they can use to challenge reinspection charges. These practices and the interplays among participants around the issue of inspection activities both presume the absence of trust and make it difficult for trust to develop.

The sweatshop phenomenon

The term *sweatshop* is used to denote a certain set of working conditions, usually found in production facilities located in the developing world (Ross 2004). Sweatshop working conditions are seen to have a number of characteristics, including: physical working conditions that may have detrimental health and safety consequences for the worker, an intensity of work that is higher than would be found in similar facilities in the developed world, long hours of work with mandatory overtime, low rates of remuneration and uncertainty that the remuneration will be received, and the presence of verbal, physical and/or sexual abuse (Esbenshade 2004; Lehman 2006, 312). The term *sweatshop* evokes an image of workers sweating, which reflects the intensity of the work and the fact that these facilities often lack basic physical amenities, such as adequate ventilation (cf., Rosen 2002).

The preceding analysis illustrates how the accounting practices of the buyer intermediary and factory owners are an instrumental response to the context of low-price apparel production. Power asymmetries within the production chain allow retailers to demand new styles of fashion-type items with low prices and quick turnaround times. These demands, in conjunction with the buyer intermediary's understandings and presuppositions about the context of low-price apparel production, encourage the intermediary to adopt certain accounting gathering and use practices to ensure that a low-price but acceptable-quality product is produced within the allotted time. In turn, factory owners respond to the demands and practices of those above them in the production chain, adopting workplace practices that give them the best possible chance of surviving and making a profit.

Workplace practices pertaining to the daily production quota are central to the activities of the factory owner. Surviving and making a profit depend on meeting the daily quota in a cost-effective manner; that is, in a way that extracts extra sewing minutes without incurring extra labor costs (Cammatt 2006). For most factory owners, it is possible to increase daily production by adding additional machine operators or by adding another shift. However, both of these solutions increase the variable cost per unit thereby decreasing profitability. Thus, most factory owners prefer to adopt lower-cost strategies to find the extra sewing minutes.

Enforcing the daily production quota is the primary way that factory owners attempt to extract these additional sewing minutes. To provide a sense of comparison, the daily production quotas in the factories producing for the buyer intermediary were at least 20 percent higher (for similar items) than in one worker-run cooperative (I-38) and in another union-run factory (I-29) that we visited during the research.¹¹ Higher production quotas increase the intensity of the work since a constant effort is needed from all members of the production line if the quota is to be met. However, the enforcement of higher daily quotas also usually implies a longer working day and some unremunerated work. As mentioned previously, sewing faster to meet the daily quota could mean more repairs that need to be completed at the end of the normal workday (I-23, 8). Conversely, sewing slower in order to make fewer errors also demands staying after the normal workday if the quota is to be met (I-26, 4). Both of these outcomes extend the normal workday, sometimes to more than 12 hours (I-38).¹² Some,

11. For example, a production line of 10 people producing t-shirts in the cooperative had a daily quota of around 40 shirts per person, whereas the typical factories visited had a quota in excess of 50 shirts per person.

12. We were not able to document the number of work weeks in which overtime was required, though a significant number of workers stated that overtime was prevalent.

but not all, of the factories paid workers for overtime hours, and the majority did not pay workers for repair hours (I-24, 3).¹³

“Intense” supervision accompanies the daily production quotas. As previously mentioned, supervisory practices involve nearly constant visual and verbal reminders about actual versus desired production: “[E]very 15 or 20 minutes the supervisor is writing on the whiteboard what the line is producing. The whiteboard also contains the daily and hourly production targets” (I-28, 1). Another operator commented, “[I]f you don’t want them to yell at you, you need to complete your work” (I-25, 4). The implication of this comment is that verbal admonishments only cease when someone is meeting production quotas. In addition, admonishments often evolved into threats. Machine breakdowns, the absence of operators, problems with the production process, and issues with the provided materials invariably cause production delays, with the result that the frustration and worries of the factory owner are often communicated to the workers via “sermons” about the realities of low-price apparel production (I-25, 5). Similar to the communications that take place between the intermediary and the factory owner, these restatements contain threats, such as, for example, that there might not be work next week if the current order is not finished on time or that it is easy to find another person if someone doesn’t want to stay late (I-26, 2).¹⁴ Not surprisingly, the threats produce frustration and anxiety among workers, and they are a reminder of the realities and hierarchies that exist in low-price apparel production. They also demonstrate how an enabling orientation, with its focus on promoting transparency, can become a coercive one (Adler and Borys 1996).

Frustration and anger were also present in the interactions around quality. The tracking of production by individual operators makes it possible to identify the operators responsible for a particular error. This information is then used to return the items to the operator for repairs. These interactions are often quite uncomfortable; one can see the frustration on the face of the supervisor and hear it in her voice. Likewise, the body language and the voice of the operator express a frustration at what is being demanded. Sometimes the frustration of the supervisor boils over and the garment is thrown to (or at) the operator: “[I]f she finds one of my errors, she throws the garment in my direction, telling me to repair it and then pass it forward” (I-25, 4).

The preceding illustrates how the context of low-price apparel production encourages certain workplace consequences, including work intensification, long working hours and abusive interactions. However, despite these consequences, the sense-making activities and reactions of workers are much more ambivalent than one might expect. Most are resigned to working in the low-price apparel industry because countrywide levels of unemployment are high and workers have family members to support (I-21, I-41). At the same time, there is a somewhat perverse pride in being able to “aguantar” (put up with) the conditions inside the factory, since not everyone has the physical stamina to do so (I-24, 4). Workers recognize that the work is intense, the hours are long, and the treatment is sometimes abusive; but they rationalize this by saying that at least they have a job, and one that pays much more than an agriculture-based job (I-11, I-39).¹⁵ In moments of confrontation or tension within the factory, workers sometimes think about individual and collective forms

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13. Workers are paid bi-monthly. Payments are sometimes delayed while the factory owner waits for payment from the buyer intermediary.
 14. It is important to acknowledge that these threats often remain as threats. Factory owners can replace workers since there is an ever-present supply, but there are also costs associated with this strategy. For example, workers who have been dismissed can complain to the Ministry of Labor and the Ministry might convene a hearing (see fn 17). Also there is no certainty that the “new” worker will be more productive or more docile than the one that is replaced.
 15. The legal minimum daily wage in the agricultural sector is around \$3 USD compared to around \$6 USD in the industrial sector.

of resistance.^{16 17} However, their thoughts do not necessarily translate into action since supervision is tight, the probabilities of success are low, and the reality is that they need the job. Moreover, workers often empathize with small factory owners since many of the latter are also women who started out as machine operators, accumulating machines from factory closure sales and eventually opening small factories (I-10). These seemingly contradictory sentiments infuse the field's habitus, reflecting the workers' understandings of the economic and social realities of the country and the low-price apparel industry, including their relative positioning vis-à-vis other (agricultural) workers, the unemployed, and the factory owners themselves (cf. Bourdieu et al. 1999, 61, 124).¹⁸

How should we make sense of the role of accounting within the sweatshop phenomenon? On the surface, accounting arguably contributes to the creation of a sweatshop environment by helping to maintain high levels of work intensity on the shop floor. At the same time, as we have stressed throughout the study, accounting is a purposive response on the part of the intermediary and factory owners to the context of low-price apparel production. The enlistment and use of accounting is both informed by and reflects the social organization of the production chain, the habitus and presumptions of participants, and the existing power asymmetries within the chain. Accounting is an instrumental tool that is used by the intermediary and factory owners in the attempt to accomplish their individual and collective objectives. However, this is not to say that accounting is a neutral instrument that is equally accessible and available to all participants, since one's position within the production chain—and the capitals and influence that are attached to social positions—influence how and when accounting can be utilized. Nor is it to say that the context of low-price apparel production completely determines how accounting is used, since it is individual chain participants who decide, based on their understanding of the situation, how it will be used. In turn, these individual-level decisions and the cascading responses that they encourage “act back” and influence the habitus, presumptions, and actions of the participants. For these reasons, we propose that accounting simultaneously puts into practice the preexisting objective conditions of low-price apparel production and actively helps to constitute the sweatshop environment.

7. Conclusion

The current study uses an economic sociology approach to examine accounting practices within a low-price apparel production chain, a setting that is quite different from the electronics assembly, supermarket, and telecommunications supply chains considered in previous research. This approach emphasizes the importance of examining accounting in relation to the institutional context in which a production chain is embedded and in relation to the social positions that exist within the chain itself. More specifically, we start from the premise that accounting practices are a reasonable response to the objective conditions of the industry as understood by influential chain participants. The provided

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16. Examples of individual forms of resistance include hiding unfinished pieces in order to go home early (I-24, 2) and dreaming of getting “incorrectly” fired and being given a severance settlement. Workers who believe that they have been incorrectly fired can appeal and receive a hearing from the Ministry of Labor (I-35, 9), though these appeals tend not to be successful if the factory owner has “documented” the apparent infractions (cf., I-24, 5). Even in cases where this is not the case, workers tend to settle outside of the system for 50 percent or less of the severance that is owing, since they cannot afford to wait for what is often an uncertain settlement (I-39).
 17. Forming a union is a form of collective resistance. However, in Central America factories that attempt to unionize are often closed by their owners. In one high-profile case, international pressure forced a factory to reopen under union control, however it subsequently failed due to a lack of external orders (I-30).
 18. While we acknowledge that the sense-making activities of the workers are influenced by economic conditions and other hierarchical social and symbolic practices (Bourdieu 1991, 51), we do not attempt to disentangle these activities and practices within the current study.

analysis brings into focus some of the apparent differences across production/supply chains and has two primary implications for our understanding of accounting.

First, the provided analysis highlights the hierarchy of social positions and capitals that exist within low-price apparel production chains and the ways that this hierarchy influences accounting practices. Influential chain participants have the ability to demand both low prices and tight delivery deadlines as well as to put specific accounting practices into motion. In turn, other participants respond to these demands and accounting practices in a cascading fashion, with the end result that the final amalgam of accounting practices is a product of a series of strategic and reasonable responses on the part of individual participants. Note that this explanation does not foreclose the possibility that some accounting practices will be communally decided upon. Rather, it simply acknowledges that, within low-price apparel production chains, some participants are more able than others to encourage and/or demand the adoption of specific accounting practices.

Second, the analysis suggests that it is important to distinguish between accounting gathering and accounting use practices. Prior research has mostly concentrated on how accounting is used within production/supply chains, including the interactions that occur around the gathered data (cf. Chua and Mahama 2007). In contrast, the current study illustrates a situation where upstream participants—in this case the buyer intermediary—directly gathers and verifies accounting-related information. This “reasonable” decision changes the types of interactions that occur among participants—for example, it results in there being multiple participants on the shop floor trying to control production quality and speed. Arguably, these gathering and use practices not only frame the interactions between the intermediary and factory owner but also change the dynamics and intensity of control on the shop floor.

These findings foreground some of the specific ways that the institutional context and the hierarchy of social positions within this particular production chain influence accounting practices. At the same time, it is important to acknowledge that the findings are based upon the analysis of a single, low-price apparel production chain in one Central American country. While we are reasonably comfortable that our economic sociology research approach and the generated insights are applicable to other geographic settings and to other types of supply/production chains, ultimately the applicability of the research approach and the usefulness of the findings are empirical questions. Additional research is clearly needed on supply/production chains in other industries (especially in settings where power asymmetries among participants are less extreme) in order to better understand the sequential and strategic ways that accounting gathering and use practices are put into motion. Research on the “production” end of other supply chains is also needed to see how accounting practices intersect and accumulate on the shop floor. Finally, the current study has only briefly touched upon the ways that workers on the shop floor understand and respond to these accounting practices. Taken together, such a research program has the potential to increase our understanding of how accounting permeates and organizes global supply and production chains.

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