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Making A Last Minute Save? Value Chain Struggles, Work Organization, and Outcomes for Labor in the Football Manufacturing Industry of Jalandhar, India

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ABSTRACT

Recent academic writings have emphasized that an increasing proportion of world-wide manufacturing is taking place through extensive subcontracting networks that connect consumers in the United States and Europe with workers laboring in the informal economies of developing countries where they often lack social protection or legal recognition under national labor laws. In this article, we make a contribution to this literature by exploring how three different forms of work organization – factory-based, center-based, and home-based football stitching - came into being in the brand sensitive, export-oriented football manufacturing industry of Jalandhar in North India. We argue that the evolution of supply chain linkages and work forms within this industry can best be understood through the ‘prism’ of value chain struggles between the intra-chain actors such as international buyers and local suppliers and the extra-chain actors such as national governments and international NGOs. In particular, struggles over supplier upgrading and labor standards first led to the creation of football stitching as a cottage industry in the latter part of the 20th century and then its re-establishment as industrial factory-based work in the early parts of the new millennium. We conclude that shifting preferences of the upstream buyers and the global consumers, somewhat ironically, offer a Hobson’s choice to the Jalandhar football manufacturers: either insource football stitching within factory-based settings, adopt new technologies, and comply with labor laws/standards, or perish in the highly competitive global market.

Keywords: Value Chain Struggles, Work Organization, Work Conditions, Child Labor, India

INTRODUCTION

On June 7th 2010 the Washington-based NGO the International Labor Rights Forum published a report entitled “Missed the Goal for Workers: the Reality of Soccer Ball Stitchers in Pakistan, India, Thailand, and China” (ILRF 2010). The publication of the report coincided with the launch of the 2010 soccer World Cup in South Africa and highlighted the plight of workers engaged in the most labor intensive aspect of football manufacturing, soccer ball stitching. According to the report, widespread labor rights abuses prevail in the international soccer ball manufacturing industry. For example, in India’s main export-oriented football cluster, Jalandhar, soccer ball stitchers were found not to have any contracts and social insurance. They were not paid the local minimum wage and suffered from severe occupational health and safety problems. In practice, they were mostly employed in the subcontracted supply chains of local manufacturers, lacking formal recognition as workers and real possibilities for exercising rights such as freedom of association and collective bargaining.

The reality of soccer ball stitchers laboring in the supply chains of international sports brands in Jalandhar can also be seen as part of a broader world-wide phenomenon which Wills (2009) calls subcontracted capitalism. According to Wills, whereas employment and labor relations were mostly associated with factory-based work in the 20th century, subcontracted forms of employment are becoming paradigmatic in the 21st century. Throughout the world an increasing number of both government and private sector workers are thus engaged in subcontracted forms of employment with implications for the conditions, experience, and politics of work. For employers subcontracted capitalism appears to constitute a way to “cut costs, shed responsibility, increase flexibility, and

disempower the workforce” (p. 444). For workers however, the nature of short-term employment, increased competition between contractors, and the lack of direct contact with their “real” employer at the top of the manufacturing chain serve to lower wages, undermine standards at work, and break the ability of workers to organize jointly due to the decentralized nature of work organization.

However, in the case of the Jalandhar football manufacturing industry, it would appear as if subcontracted capitalism is beginning to reach its limits. On the one hand, the late 20th century saw the process of football stitching being outsourced to football stitchers laboring in their homes and designated football stitching centers outside the framework of Indian labor laws. In other words, the late 20th was marked by a process of *deindustrialization* as factory-based football stitching was transformed into a cottage industry. On the other hand, at the end of the first decade of the 21st century, we appear to be witnessing a process of *re-industrialization* as the cottage industry is now again being replaced by factory-based football stitching and the extensive subcontracting networks being eliminated with significant consequences for work organization, employment, and labor conditions within the industry. The question is why these changes in the vertical organization of supply chains and horizontal forms of work organization have taken place in the football manufacturing industry of Jalandhar?

In this article, we explore how the different work forms in football stitching - home-based, stitching center, and factory-based work - came into existence in the Jalandhar football cluster, the reasons why football stitching was outsourced through dense subcontracting networks in the latter part of the 20th century and now appears to be insourced once again in the beginning of the 21st century. Our main line of argument is that the development of home-based, center-based, and factory-based

football stitching in the Jalandhar football manufacturing industry can be seen as outcome of different value chain struggles between intra-chain actors such as international buyers and local suppliers – and extra-chain actors such as national governments and international NGOs. We categorize these struggles under two broad headings: struggles over firm upgrading and struggles over labor standards. We conclude that subcontracted capitalism such as the development of home-based and centre-based forms of football stitching in Jalandhar reaches its limits when local firms are faced with sustained pressure for compliance with international labor standards and technological upgradation. In fact, football stitching in Jalandhar is in the process of being insourced, instead of outsourced, as the Jalandhar football manufacturing firms struggle to survive.

The article is divided into six parts. The first section provides an introduction to the Jalandhar football manufacturing industry. We then move onto describing the methodology that we used to identify the evolution of the dominant work forms and supply chain linkages involved in football stitching in the city and nearby villages, and how we mapped the work conditions of those involved in home-based, stitching center, and factory-based football stitching in Jalandhar. In the third section, we present our main analytical framework, arguing that the development of home-based, center-based, and factory-based football stitching in Jalandhar can be seen as outcome of different value chain struggles over the process of firm upgrading and labor standards within the industry. In the subsequent empirical analysis, we use this framework to explain why and how football stitching was first subcontracted to home-based and center locations, and now appears to be “insourced” within factories again. Moreover, we discuss the implications of this analysis for the relationship between supplier upgrading, compliance with international labor standards, and work organization in relation

to our analytical framework. Finally, the conclusion summarizes the main findings and the policy conclusions of this analysis.

CONTEXTUAL BACKGROUND:

THE JALANDHAR FOOTBALL MANUFACTURING INDUSTRY

In this section, we give an introduction to the Jalandhar football manufacturing industry, its main export challenges, supply chain networks, and forms of work organization. As Table 1 shows below, the export-oriented Indian football manufacturing industry which is almost exclusively located in Jalandhar remains a relatively marginal player in terms of its share of exports from the four main manufacturing locations in the world: China, Pakistan, Thailand, and India.

Table 1: Exports of Inflatable Balls¹ from China, Pakistan, Thailand and India, 2003 – 2009 (US\$000)

Country	2003	2004	2005	2006	2007	2008	2009
China	176,097	229,038	272,900	348,420	394,044	501,873	454,446
Pakistan	112,531	184,225	185,641	225,910	161,149	160,492	118,425
Thailand	47,342	77,791	59,964	71,287	65,647	68,378	59,336
India	13,623	18,659	19,130	22,781	N/A	27,093	20,475

Source: Nadvi et al. forthcoming.

Whereas China has increased its exports manifold in the period since 2003, India has - along with Pakistan and Thailand – remained relatively stagnant. As compared to Chinese producers in this industry, the Jalandhar producers have been slow to upgrade in terms of inventing new footballs or engaging in mechanized forms of production that could facilitate an increase in their productivity.

The Jalandhar football manufacturers mostly make medium-quality training and lower quality promotional handstitched balls, but do not have the capacity to produce the quantity of footballs required by some of the world's largest bulk buyers such as Nike and Adidas. Instead, the Jalandhar producers have specialized in producing smaller volumes of handstitched balls to niche markets in Europe, North America, and developing/transition economies. Amongst the top buyers from the cluster are medium-sized brands as UK-based Mitre and the French sports retail chain, Decathlon. The cluster also supplies a range of non-branded international buyers and football clubs such as Premier League Clubs that require smaller volumes of low-cost, promotional balls that are not usually supplied by the large-scale mechanized football suppliers in China.

The Jalandhar football manufacturing industry is made up of approximately 10 medium-sized firms and 40 smaller producers (Lund-Thomsen and Nadvi 2009). These manufacturers employ 4,000 'core' workers inside their factories and outsource the process of football stitching via a network of 1,000 contractors to 12,000 registered and an unknown number of unregistered stitchers. The registered stitchers work in 3,300 stitching units. These units are either designated stitching centers or home-based locations in the central part of the Jalandhar, the villages surrounding the city (e.g., in Adampur 50 kilometers East of Jalandhar), or the town of Batala which is located about 80 kilometers West of Jalandhar, close to the Pakistan border. Out of 3,300 stitching units, approximately thirty are stitching centers that have been set up by some of the largest manufacturers in order to ensure that football stitching takes place inside a controlled space where the presence/absence of child laborⁱⁱ in the process of football stitching can be monitored. A stitching center usually consists of a building or an outside court yard covered by four walls which is rented or owned by a contractor (Lund-Thomsen and Nadvi 2010). These contractors transport the panels and

thread used to stitch the footballs from the factories to the stitchers and back to the factories again once the balls have stitched. Some stitchers also directly pick up these panels and the thread from the factories, take them home, and return them to the factories once stitched. Football stitching is done by landless workers, and the majority of them are Hindus belonging to the scheduled castes (*dalits*). Skills development within the cluster is a process of a “natural” evolution where stitchers acquire the skills from either their family or neighbors and friends. At the household level, the balls are often stitched by more than one family member. Children also become involved in the stitching of footballs at home, usually being involved in the light processes of waxing the thread or putting holes into the leather. As they grow older, they learn to stitch an entire football on their own.

At the end of the 1990s, international news reports started to emerge about the involvement of children in the stitching of footballs in Jalandhar. As the cluster’s leading football manufacturers were concerned that the industry might face an international boycott, a group of app. 25 manufacturers decided to form the non-profit organization the Sports Goods Foundation of India (SGFI) with the aim of addressing the child labor issues within the cluster. The work of the SGFI has concentrated on two main areas: first, with assistance from FIFA and the Swiss accreditation firm, SGS, the SGFI developed a mechanism for child labor monitoring within the cluster that consists of both an internal and an external part. With support from the United Nations Industrial Development Programme (UNIDO), the SGFI has also developed a number of social projects for football stitchers and their families including tuition centers, child labor schools, health camps, savings schemes for female football stitchers, a common machine-stitching facility, and an NGO, REACH, that gathers used clothes and other items in rich communities and distributes them to poor communities in central Jalandhar (Lund-Thomsen and Nadvi 2009).

In short, the Jalandhar football manufacturing industry has remained a relatively small player in the global football manufacturing industry and faces significant challenges in relation to upgrading its products, manufacturing processes, and complying with international labor standards, particularly the norm that child labor should not be involved in football stitching. In the next section, we discuss how we went about mapping the evolution of vertical supply chain linkages, horizontal forms of work organization, and work conditions within the industry between 2007 and 2011.

METHODOLOGY

The data generated for this study is based on fieldwork carried out for three different projects, and that focused on export marketing, collective corporate social responsibility interventions, and work conditions in the Jalandhar football cluster. One of the authors of this article carried out a study on the export marketing activities and challenges faced by Indian sports goods firms, based on an interviews with thirty seven sports goods exporters in Jalandhar. The research questions focused on issues such as export performance, capacity utilization, manufacturing practices, export quality parameters, constraints faced, co-operation arrangements and use of information and communication technology in the Jalandhar football cluster.

We jointly carried out fieldwork for a period of five months in Jalandhar from January until May 2008 in connection with a study sponsored by UNIDO that investigated how the Jalandhar football cluster (and its counterparts in the Pakistani football industry had responded to international child labor allegations and CSR compliance pressures in the period between 1997 and 2007). As part of that study, we interviewed five medium-sized enterprises and four small enterprises in Jalandhar

football cluster. In terms of collective industry associations, our work was facilitated by the SGFI and the Sports Goods and Manufacturers Export Association in Jalandhar. They not only served as our guides in the cluster during initial field visits, but also helped increase our understanding of the vertical value chain linkages between local producers and international buyers as well as horizontal cluster linkages between Jalandhar-based football manufacturers through repeated discussions. In 2008, we furthermore interviewed a number of other relevant stakeholders in Jalandhar. These included the Deputy Commissioner of Labor, Jalandhar, who shared his views with us regarding labor rights in the cluster. We met representatives from NGOs, the Lions Club, NGO Volunteers for Social Justice, REACH and BBVA that told us about their interventions in the industry aimed at helping local stitchers. We also visited the micro-credit projects, schools and tuition centers of the SGFI, a volunteer hospital started by one of the manufacturers in the cluster, and the philanthropic foundation established by another manufacturer that provides scholarships for students from disadvantages backgrounds. This was complemented by repeat conversations with staff from the UNIDO that had implemented different interventions in the Jalandhar football industry for a period of five to six years before our arrival. Finally, we undertook several visits to local male and female stitching centers inside central Jalandhar and the nearby villages of Tajpur and Talhan as well as home-based stitching units where we carried out 5 initial test interviews with center and home-based stitchers in each village.

During our final round of fieldwork between June and December 2009, we worked on a study of work conditions in the international football manufacturing industry sponsored by the Danish Social Science Research Council. During this fieldwork we interviewed four manufacturers that we had previously met. Our reason for selecting these manufacturers were that two of the manufacturers had

their footballs stitched in stitching centers and two had their balls stitched exclusively by home-based stitchers as we intended to do a qualitative process of mapping their supply chain linkages, forms of work organization in the stitching process, and the conditions of football stitchers laboring in these chains. This allowed us to map the two main types of football stitching supply chain in the cluster and work conditions of stitchers taking part in the work forms: home-based and center-based stitching. Our interviews with these firms focused primarily on how they managed their stitching supply chain, particularly their contractors, and whether, and if so, how they monitored work conditions amongst their football stitchers in these chains. We then took one step down the supply chain and interviewed contractors, focusing on how they carried out their work, the financial benefits they received from this work, and how they managed their relations with their stitchers. At the bottom of these chains, we interviewed home-based football stitchers and center-based stitchers about their relations with their contractors and their general work conditions including issues such as daily wages, piece rates received per ball, daily productivity in terms of balls stitched, availability of work, work hours, occupational health and safety, trade union membership, presence/absence of collective bargaining mechanisms, and social support mechanisms including the presence/absence of NGOs in the area. An overview of the number of respondents in our 2009 fieldwork is presented in Table 2 below.

Table 2: Respondent Profile in Our 2009 Fieldwork

Category of Respondent	Location	Number of Respondents
Manufacturer	Jalandhar	4
Contractors	Jalandhar	9
	Adampur	1
Home Based Stitchers	Jalandhar	9
	Batala	6
Stitching Center Based Stitchers	Jalandhar	9
	Adampur	5
Total Respondents		43

Finally, we had the chance to revisit Jalandhar in April 2011 where we made a presentation of the findings contained in this paper and discussed them with 19 of the SGFI's members during a two and a half-hour meeting. We also made repeat visits to four of the firms that we had visited earlier. These were the firms that had begun to make the transition to machine-based stitching within the cluster. In the next section, we introduce our analytical framework which seeks to explain how the evolution of different forms of work organization (factory, center, and home-based work) may be understood as an outcome of value chain struggles between intra-chain actors such as international buyers and extra-chain actors such as national regulatory agencies and international NGOs.

TOWARDS AN ANALYTICAL FRAMEWORK

As described in the introduction to this article, subcontracted capitalism appears to be a process that has not only been taking place in Jalandhar. As Naomi Klein (2000) wrote in her best-selling book, *No Logo*, many multinational companies are no longer the official owners of the factories that they are sourcing their products from. Instead they subcontract the manufacturing, transportation, and

distribution of their products and services to other firms. From this point of view, they have become “hollow corporations whose core competences lie in the management of world-wide networks of suppliers and their own corporate and products brands instead of the people, products, and goods”.

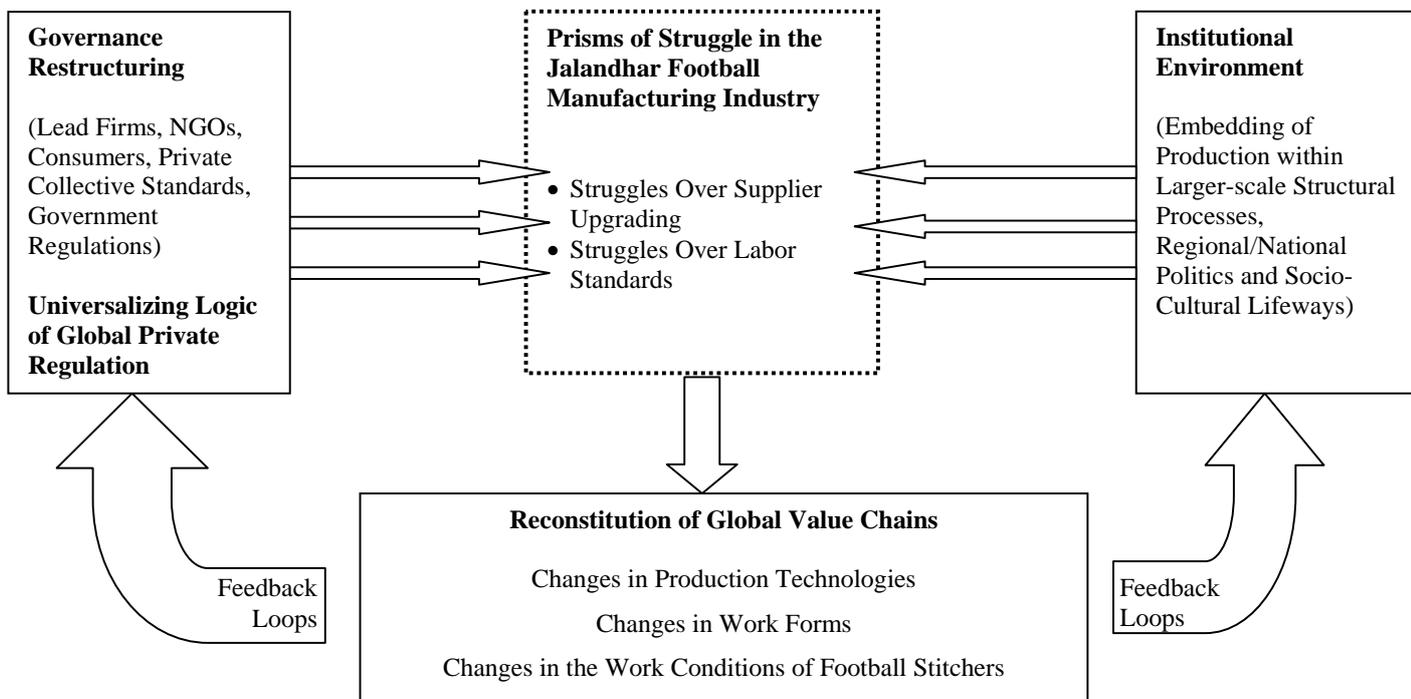
Since the end of the 1990s, global value chain analysis has emerged as a novel methodological framework that allows us to analyze these processes of economic globalization and international trade (Nadvi 2008). Global value chain analysis focuses on how the input supply, production, trade, consumption and disposal of goods and services are coordinated on a global scale in interfirm relationships (Altenburg 2006, Gereffi et al. 2005, Gibbon and Ponte 2005, Bair 2005, 2009). To date much of the discussion in the global value chain literature has been based on Gereffi’s (1994) original conception of how such chains were internally governed. His original approach to governance focused on how a functional division of labor was achieved throughout the chain, resulting in the allocation of resources and gains for different chain actors. Governance was here mostly seen in terms how lead firms were able to drive chains by determining the allocation of value-added activities were along the chain, the inclusion and exclusion of particular actors along the chain, and the terms of chain participation (Ponte 2009). Another central theme in the GVC literature has been how suppliers in developing countries might link up with lead firms and learn from the interaction with them. The emerging consensus in this literature appears to be that supplier firms may quickly learn how to produce better products more efficiently through such linkages, but that lead firms are likely to block any attempts at encroaching upon their core competences; the design and branding of their products. At the same time, linking up with lead firms may also pose considerable risks for developing country suppliers in instances where lead firms redirect their sourcing to other production locations that they find more attractive (Humphrey and Schmitz 2002, Schmitz 2006).

In this article, we will use a more recent articulation of the global value chain analysis that seeks to integrate the perspectives of how global value chains intersect with regional production systemsⁱⁱⁱ. Neilson and Pritchard (2009) argue from a geographical perspective that liberalized engagement with global markets along with forces of consumer activism reflect as series of global value chain struggles. These struggles are outcomes of conflict and tensions created due to the interplay of new form of value chain governance with differentiated institutional environments that determine the how the producers are inserted in global value chains, the level of control they can exercise within them, and economic returns for the producers. Institutional environments are here understood as both formal organizational types (e.g., national regulatory authorities) and rules and regulations (e.g., laws) as well as informal rules of the game including the norms and values that guide how goods are to be manufactured. Neilson and Pritchard broadly identify four types of struggles that ensue from the interaction between global value chains and regional production systems: a) struggles over supplier upgrading, b) struggles over labor and livelihoods, c) struggles over environmental governance, and d) struggles over the fate of smallholders.^{iv}

Neilson and Pritchard's framework was based upon their analysis of value chain struggles taking place in the context of South India tea plantations. However, in the context of this article, we are analyzing (i) how value chain struggles have influenced the evolution of different work forms (factory, center, and home-based forms of football stitching) in the Jalandhar football manufacturing industry, (ii) why these work forms came about, and (iii) how their emergence has affected work conditions amongst football stitchers within the industry. Hence, we adapt Neilson and Pritchard's framework to the particular case that we are studying. Based on our extensive fieldwork in Jalandhar

between 2007 and 2011 and knowledge of the industry, we thus hypothesize that value chain struggles over firm upgrading and labor standards compliance are the ones that eventually determined how and why factory, center, and home-based football stitching have emerged in Jalandhar. In our adapted framework, we also assume that these struggles have had significant implications for the work conditions of football stitchers taking part in each work form. Our adapted analytical framework is presented in Figure 1.

Figure 1: Value Chains Struggles in the Jalandhar Football Manufacturing Industry



Source: Adapted from Neilson and Pritchard (2009)

Struggles over supplier upgrading relates to whether local football manufacturers should continue to use the traditional labor intensive handstitching technology in the production of footballs or whether

they need to upgrade to the use of machine-stitching in the production of training and promotional balls. The use of the handstitching technology may be possible in factory-based, center-based, and home-based work settings. Hence, if firms use handstitching, work may be organized through subcontracting arrangements that link local suppliers with centre or home-based stitchers. However, if local suppliers upgrade to machine-stitching, they will have to insource the stitching process within the factory premises as machine-stitching of footballs needs to be organized in production lines that are closely linked to the other aspects of the football manufacturing process. *Struggles over labor standards* relate to the question of whether the use of child labor should be permitted in the process of football stitching, and whether local firms need to comply with national labor laws in order to be able to export their products abroad. As child labor might be difficult to exclude from the supply chain if football stitching is undertaken in thousands of dispersed home-based locations, local manufacturers may have incentives to centralize the process of football stitching in stitching centers or in factory-based environments. At the same time, if local suppliers are to abide with national labor laws, this would encourage them to insource the process of football stitching into factory-based settings where football stitchers would be covered by the provisions of national labor laws even if this might increase their cost structures. However, if football manufacturers wish to avoid complying with local labor laws in order to reduce their production costs, outsourcing of football stitching to home-based locations or stitching centers not covered by any labor laws may be an attractive option.

In terms of *consequences for workers*, struggles over upgrading could follow two broad scenarios. If handstitching is the technology which is used to stitch footballs, football stitchers might either be working in formal factory-based environments where they would be entitled to the minimum wage, have limits to the amount of hours they work and be covered by social insurance (at least to some

extent) under national labor laws. Or they could be laboring in home-based or center-based locations where they are not entitled to the minimum wage, without any limits to their working hours, and do not have any forms of social protection guaranteed under national law. However, in the case of machine-stitching, this can only be carried out in factory-based environments, and hence football stitchers would automatically be covered by the provisions and safeguards ensured under national labor laws. As far as struggles over labor standards are concerned, lack of attention to child labor eradication might mean that large sections of the stitching workforce continue to work in the subcontracted supply chains of local manufacturers in informal home-based settings without any protection or recognition under national labor laws. However, actually eliminating child labor from the supply chains of local manufacturers might require that home-based stitching as a work form is eliminated as it is virtually impossible to effectively monitor thousands of dispersed home-based locations for the presence/absence of child labor. In order to make monitoring more effective, stitching will have to be centralized in either center or factory-based locations. Hence, while children might not longer be involved in football stitching in center or factory-based stitching if this “children should not work” norm is followed in production, the remaining population of home-based stitchers might suffer considerable social stress and the loss of employment if they are displaced from the supply chain and unable to switch to factory-based or center-based production or find alternative sources of income. At the same time, eradicating child labor from the supply chains of local manufacturers could also be achieved by shifting football stitching from home-based to center-based locations. However, in this scenario, football stitchers may still not be covered by any national labor legislation. Finally, if compliance with national and international labor standards were to be fully achieved, this would require a shift of football stitching from center, and home-based locations to factory-based environments. For those stitchers that were able to obtain employment in factory-based

stitching, this would mean that they would – in theory – be secured the national minimum wage, limits to their work time, and also social protection coverage. However, for the stitchers unable to shift to factory-based stitching, the outcome might again be exclusion from the supply chain which could otherwise force them to seek alternative forms of employment or sink deeper into poverty.

In the next section of this paper, we turn to an empirical investigation of how these value chain struggles have dynamically played out and interacted in the Jalandhar football manufacturing industry from the middle of the 20th century until the beginning of the second decade of the 21st century. Our basic concern in the next section is thus to explore how and why home-based, center-based and factory-based forms of work organization have emerged and developed in the Jalandhar football manufacturing industry. We combine this with an analysis of how these processes have affected the work conditions of football stitchers taking part in each of the three work forms.

FINDINGS

Value Chain Struggles in Jalandhar Phase I:

From Factory-Based to Home-based Football Stitching

The section describes the first phase of value chain struggles in Jalandhar football manufacturing industry which resulted in the transfer of factory-based stitching of footballs to home-based locations from the late 1950s until the early 1970s. Initially, in the 1950s, football stitching in Jalandhar was factory based and a limited number of stitchers were required to do the job as the volume of orders was low. Over the years as order volumes increased and the need to comply with labor laws became stringent, the exporters started shifting production out of the factory and into the home based

stitching environment. A major reason for this shift was the provision in the Industrial Disputes Act (1947), according to which companies employing more than hundred workers have to seek government approval before they can retrench workers or close down the business. Football being a seasonal product, the exporters were of the opinion that it was not possible for them to retain the workers during the off peak season. Moreover, as the volume of orders had also started increasing in the 1960s, it became difficult for the exporters to increase the number of workers in ways that would allow them to remove the workers later when the orders reduced during the off peak season. The prospective dilemma of collective bargaining and fear of union unrest catalyzed the exporters to shift their football production outside the factory, and led to the evolution of home based stitching as a work form. By the end of 1950s, approximately half of the production of the exporting firms was taking place outside its factory and in the stitchers' homes through intermediary contractors and subcontractors. In the ensuing years the trend of shifting football stitching to home based stitchers intensified and by 1970s, football stitching was almost exclusively taking place in home based locations^v.

Characteristics of Home Based Units

In the home based locations in present-day Jalandhar, women start stitching football only after finishing their daily household chores, and even in between they have to attend to guests, provide lunch, look after children etc. It was found in the course of field work that the stitchers in the home based units assemble together in the common room or living room, and stitch under poor light conditions, as the rooms are dark and power cuts are frequent.

The Supply Chain Linking Manufacturers and Home Based Units

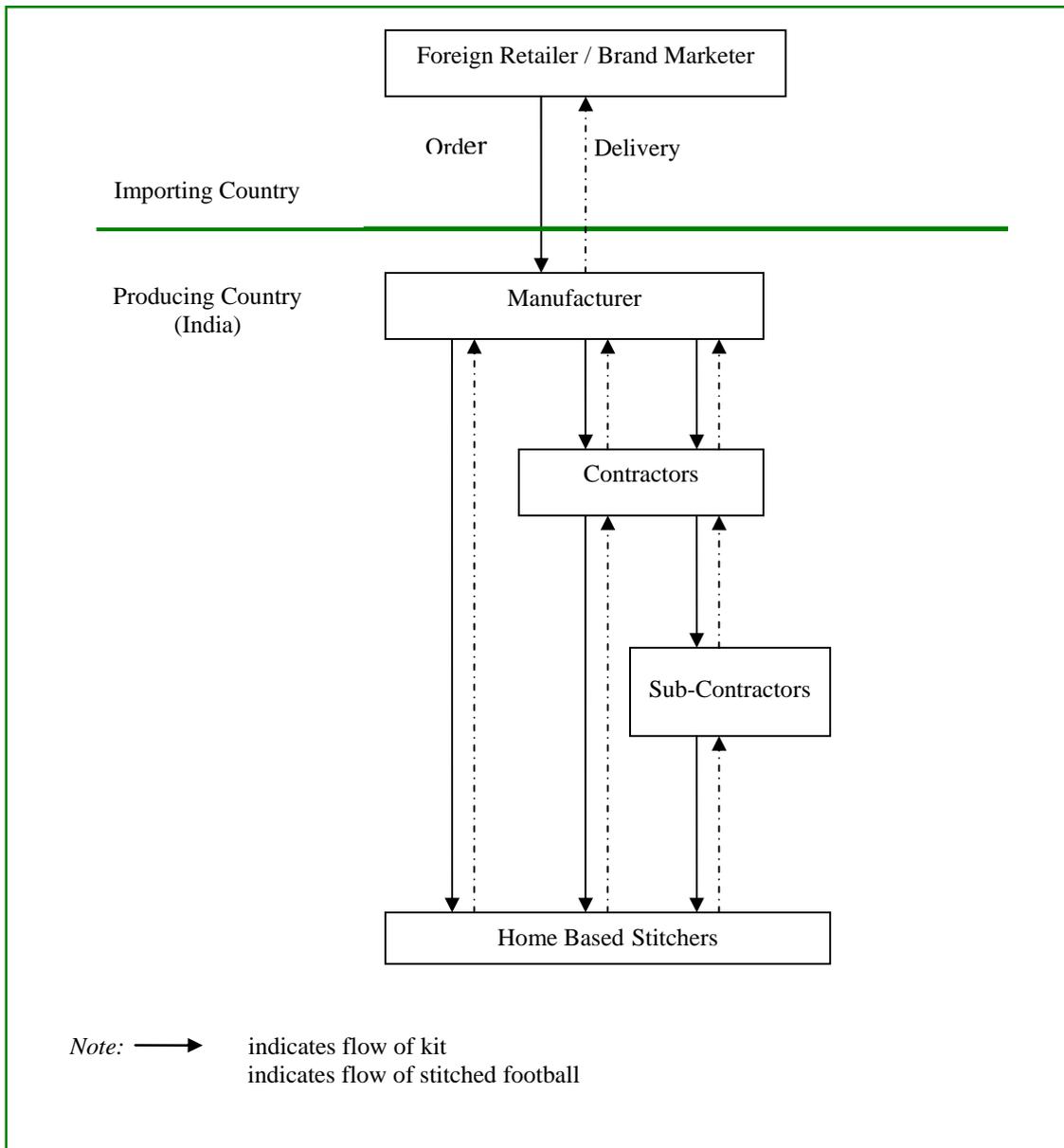
The process of football stitching in the home based units differs with the geographical location of the units. These units are primarily based in Jalandhar and its nearby villages, as well as the neighboring town of Batala and villages in its vicinity. The vertical supply chain in the Jalandhar football cluster exists in one of the three following possible combinations.

1. **Manufacturer to Direct Home:** This form of production is visible in the areas which are in close proximity to the football factories in Jalandhar. The factory issues a slip to the stitcher that indicates the name, address, and the number of kits issued to that stitcher. The number of kits issued to the stitchers depends on the volume of order received by the firm. Each evening the factory issues kits to the stitcher on the slip, which are taken home by the stitcher, stitched into footballs and returned to the factory the next evening and further kits issued. It is the stitcher's task to collect the kits from the factory and deliver the finished football back there.
2. **Manufacturer to Contractor:** This form of production is also visible in the areas which are in close proximity to the football factories in Jalandhar and its nearby villages. The contractor act as middleman between the company and the home based stitchers. The contractor generally is a former stitcher, now working as a contractor, and is responsible for getting the kits from the factory, distributing it to the stitchers, receiving the stitched football and delivering them to the factory. The biggest challenge facing the contractor is finding the location of the stitchers, especially during peak season when there is a shortage -of skilled labor. At times the contractors have to refuse the stitching orders from the manufacturer because of non-availability of stitchers. The stitchers are hired generally

through reference from other stitchers or may themselves approach the contractor for work. The study reveals that contractors exhibit a unique *paternalistic attitude* towards the workers, which is manifest in two ways. Firstly, during the off peak season, rather than laying off workers, the contractors prefer to proportionately distribute the kits to all the stitchers so that each has some source of livelihood, even though it might be inadequate. Additionally, they extend credit to the stitchers in form of an advance, which is later deducted from their wages. However, the system of credit advance is in fact exploitative as it binds the stitcher to a particular contractor and reduces the bargaining power for the piece rates. The firm issues kits to a contractor who generally works solely for the firm. The contractor then distributes the kits to the stitchers registered with him, collects the completed football from the stitchers, and delivers it to the factory; generally on the third or fourth day from the date of issue of kits.

3. Manufacturer to Sub-contractor through Contractor: This form of production comes into existence when the contractor does not have the required number of stitchers to complete the football order. In this scenario, the contractor further gives the kits to the sub-contractor to get the kits stitched from his stitchers. The subcontractor delivers the stitched footballs to the contractor, who in turn delivers them to the factory along with footballs stitched by the registered stitchers.

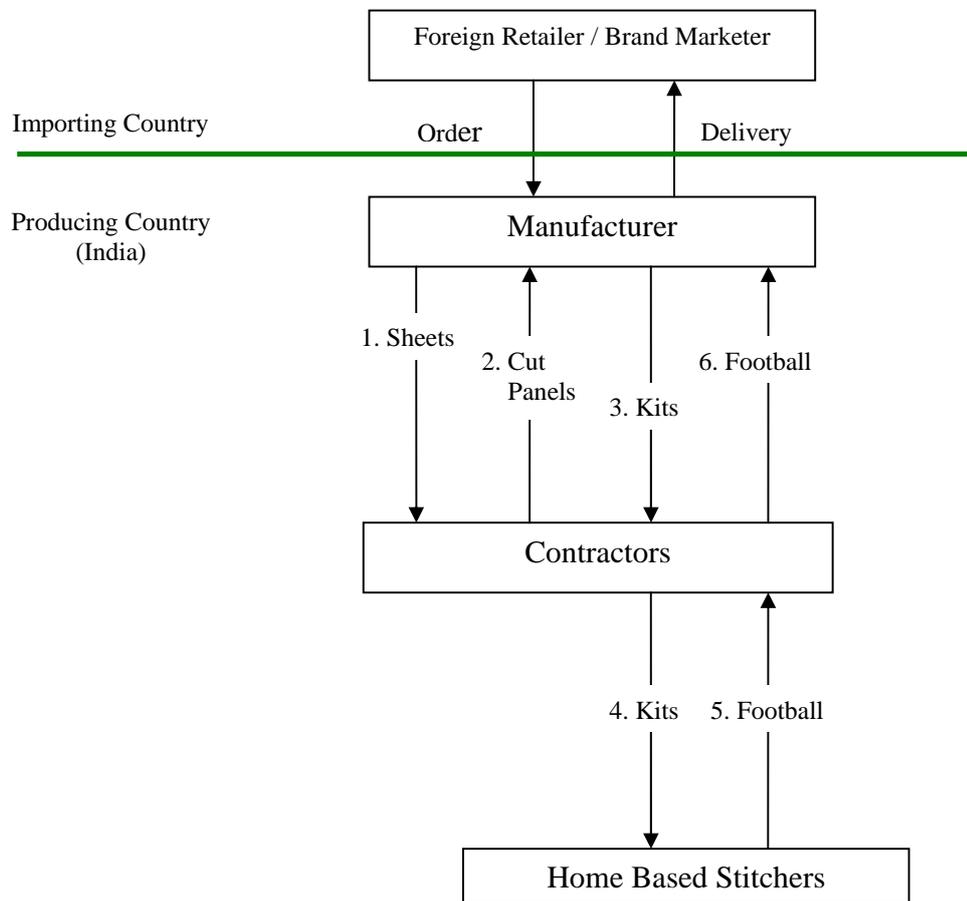
Figure 2a: Home Based Global Supply Chain in Jalandhar



Football is also sometimes subcontracted from the main football manufacturing industry in Jalandhar to home-based units in the city of Batala about 80 kilometers East of Jalandhar when orders are in excess of what the local Jalandhar-based stitching population can stitch per day. The organization of

the supply chain in Batala differs from that in Jalandhar, in the kind as well as the number of steps involved for football production. In the first step, the firm calls the contractor to obtain the synthetic leather sheets from the factory and cut them into required panels. The panels are then brought back by the contractor to the factory for screen printing and making kits. The firms are averse to allow the contractor to print the buyer logo and name on the panels, as the manufacturer is unable to monitor its misuse and counterfeiting. These kits with the printed panels are again taken back to Batala by the contractor and distributed to the stitchers. The stitched footballs are then delivered back to the factory, after three to four days from the issue of the kits. This to and from movement of the raw material and the stitched football between Jalandhar and Batala leads to increased transportation expenses for the contractor, therefore a group of contractors jointly hire a transport service and share the expenses among themselves. However, contractors in Batala report that there have been instances when the factory has called them for collecting the sheets but they are not given the order on reaching the factory, and even the reimbursement for the transportation costs is rejected by the manufacturer. Figure 2b below depicts the football stitching supply chain in Batala.

Figure 2b: Home Based Global Supply Chain in Batala



Work Conditions in Home-based Units

A major part of the asset value of the households of home-based stitchers comprises of the current value of the residential accommodation owned by the stitchers. The vast majority of the home-based stitchers we interviewed live in their own house whereas the remaining stitchers reside in rented accommodation. However, all the households surveyed in the study lack productive assets. A key finding is that none of the households reported any form of savings and stated that the money earned from stitching is spent on their daily household expenses. The level of indebtedness is an important

indicator of the economic status of a household. It was reported that none of the stitchers have taken any loans. This in itself is unexpected as the general wage conditions in the industry are low. According to the National Labour Institute report (NLI, 1998), this can be explained by their inability to construe advances from the factory or the contractors as a form of debt. In this context, we found that approximately 2/3 of the home-based stitchers took an advance from the factory or the contractors. The advances are given by the factory to an amount of INR 3000-4000 (USD 63 – 84^{vi}) and INR 500-600 (USD 10 – 13) by the contractor, which is later deducted from the stitcher's wages, along with interest. It is also significant to note that this situation is at a disadvantage for the stitcher because they are unable to negotiate with the contractor for the piece rates and hence receive lower rates.

Football stitching is a full time activity for all the home-based stitchers that we interviewed as part of this study. The monthly mean income of the home-based stitchers that we interviewed in central Jalandhar was approximately INR 2864 (USD 60), while it was not possible to calculate any monthly income of home-based football stitchers in Batala where the stitchers would sometimes not receive orders for several months. A breakup of the household locations in Jalandhar and its surrounding villages reveal that the stitchers are totally dependent on football stitching as a source of livelihood, with no alternative sources of income. Stitchers in registered home-based locations are paid between INR 26-30 per ball (USD 0, 54 – 0, 63). The piece rate in the unregistered home-based locations is lower than those given in the registered locations and ranges between INR 25-29 per ball (USD 0, 52 - 0, 61), but only promotional balls are stitched here. There is also discrimination between the rates given to female and male stitchers. For an identical ball the female stitchers are paid INR 23 (USD 0, 48) and the male stitchers are paid between INR 24.75-30 (USD 0, 52 – 0, 63). In locations in Batala

and some unregistered locations, women receive INR 5 (USD 0, 1) for stitching half football (known as *khokha*). The study found that women are not allowed to stitch a full ball by the contractor, who prefers to complete the ball himself and earn the extra money apart from his commission. These rates include the cost of thread, wax etc. and the net piece rate per football is actually INR 2-3 (USD 0, 04 – 0.06) lower from the rates mentioned above.

The field discussions reveal that on average a stitcher is able to stitch 3-5 footballs per day, as shown below. As per the rates set by the Punjab government, the minimum wage per day for skilled worker in sports goods industry is INR 158.75 (USD 3, 3) with effect from September 4, 2009 to February 28, 2010^{vii}. The calculation of daily earnings based on these rates and the number of balls stitched per day (Table 2) show that the daily wage earned by the home-based (INR 91 – USD 1,9) and center-based stitchers (INR 104 – USD 2,2) we interviewed, therefore, is below the minimum wage set by the government.

Table 3: Average Balls Stitched Per Person Per Day

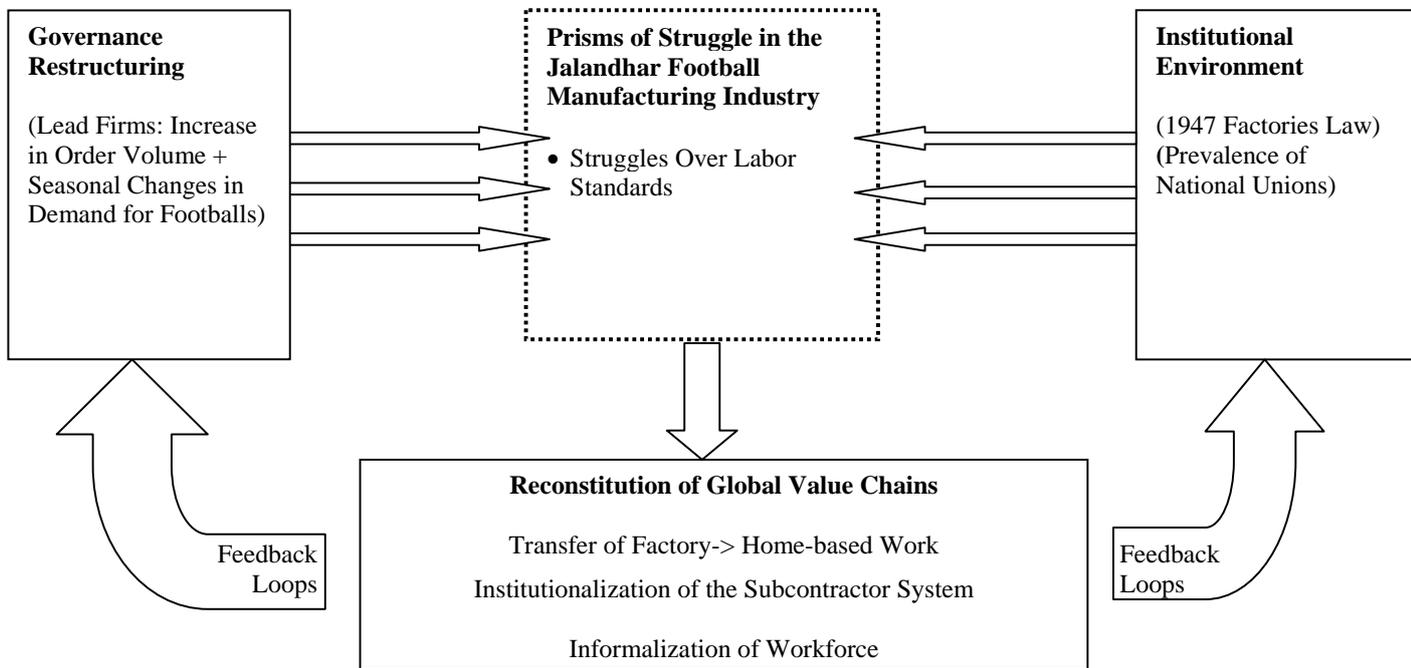
Quality of Balls	Balls Stitched Per Person Per Day
Quality Ball	3
Ball	4
Training	4
Promotional	5
Volleyball	6
Rugby	10
Mini Ball	10, 12, 18 (depending on type)
Mini Rugby	16

Stitching footballs manually is a major health hazard for the home-based stitchers as they have to sit for long hours in a hunched position that leads to chronic backache. Due to inadequate lighting in the stitching locations many stitchers suffer from poor eyesight, which advances with age. The stitchers have cuts in their fingers due to pricking of needles and the thread, and even deformations. Sometimes, the entire finger of the stitcher gets detached due to the sharp thread and has to be surgically treated. As their earning depends on per ball produced, the stitchers carry on with the work despite these injuries. The medical expenses are borne by the stitches themselves and have no financial support for these work related injuries. Sometimes, the SGFI provides antiseptic ointments and bandages to stitchers in home based locations for healing their cuts, but that is not a regular feature.

An analysis of the activity status of the stitcher's children reveals that they are all school going. Previous studies (ICN, 2002) have classified children into Working and School Going (WSG), Only School Going (OSG), Only Working (OW), Neither Working Nor School Going (NWNSG). Regarding the issue of employment of children in football stitching it is interesting to note that there is a high level of awareness among the members of the stitching community in Jalandhar and Batala about the need to keep out the children from stitching footballs. The stitchers are conscious that detection of children in household units will lead to stopping of orders not only to the individual stitcher but also has an adverse impact on the industry. At the same time some stitchers and contractors believe that the low and stagnant rates in the industry become a compulsion for the family to involve children in football stitching.

Home-based stitching in Jalandhar is characterized by the virtual absence of collective bargaining for the piece rates, which are fixed either by the factory or the contractors and the stitchers are not consulted. As the stitchers are landless workers they accept whatever rates they receive, and do not have bargaining power over their wage rates. At times, if a stitcher does ask for better rates the contractor threatens to give away the football order to other stitchers, forcing the stitcher to accept the prevailing rates. This is evident from the fact that in Batala and Adampur, the rates have not been increased for almost 10 years. During the off peak season the piece rates further decrease due to a lack of orders with the manufacturers. In order to prevent stitcher layoffs, the company and the contractors schedule the production by limiting the number of kits distributed to each stitcher, so that they are able to provide work to as many stitchers as possible. The stitchers get smaller orders and consequently earn less than their normal earning capacity. Some stitchers also report that even if the piece rate for football stitching is increased, it is temporary and after two to three months the firms revert back to the previous rate. Ironically, the system of advances keeps the stitchers tied to a particular contractor and they are forced to work at lower wages. The inability to maximize the earnings from football stitching is compelling the workers to shift from stitching to alternative professions with a regular source of income.

Figure 3: Value Chain Struggles in Jalandhar Phase I: Late 1950s until Early 1970s



Returning to the overall theme of this article, value chain struggles, we can summarize this section as depicted in figure 3 above. Pressures from restructuring of the football manufacturing value chain became imminent in Jalandhar towards the end of the 1950s as the volume of international orders increased dramatically in these years. As demands for footballs in seasonal in nature, it proved to be difficult for local manufacturers to increase the size of their core workforce inside the football factories as the 1947 factories act demanded that companies employing more than 100 workers had to seek governmental approval before it could retrench any workers or close its business. Combined with the fear of trade union unrest and the prospect of having to engage in collective bargaining, these factors made the Jalandhar producers transfer football stitching from factory-based to home-based locations. This also involved the creation of an extensive network of contractors while the

football stitchers were left being paid less than the minimum wage, without any social protection, and suffering from severe occupational health and safety risks associated with their work.

Value Chain Struggles in Jalandhar Phase II:

From Home-based to Center-Based Football Stitching

Characteristics of the Stitching Center Model

Our analysis of value chain struggles in the Jalandhar football manufacturing industry now turns to the second phase in which some home-based units were shifted to stitching centers. As previously mentioned, the stitching center model appeared in the Jalandhar cluster towards the end of the 1990s in response to international media reports about child labor being involved in football stitching in Jalandhar. Discussions with the football manufacturers during the course of study reveal that the stitching centers have been established by the firms to meet the compliance standards and the buyer requirement of in-house stitching. The manufacturer / contractor owned stitching center model makes it easier for the foreign buyer to monitor and prevent use of child labor in its supply chain. According to SGFI^{viii}, there are forty stitching centers set up by the manufacturers in Jalandhar and its nearby villages. The stitching centers in the city have male workers stitching footballs whereas those in the nearby villages of Adampur and Talhan exclusively have women stitchers working in the centers. The main feature in the stitching centers established was that stitching was shifted from home based units to a centrally, geographically demarcated location, where presence of child labor could be monitored, and where more than eight stitchers would assemble together to stitch footballs. Unlike the home based units where flexibility of work timings is a key feature, the stitching center is characterized by fixed work timings. Although the stitchers in the center have a limited flexibility to

decide their work timings, better piece rates in the center as compared to the household locations act as a key motivator for a worker to join the stitching center.

The Supply Chain Linking Manufacturers and Stitching Centers

There is a distinct difference in the pattern of working in the stitching centers located in the city from those that are situated in the villages. To begin with, the majority of the stitching centers situated in Jalandhar are owned by the manufacturer, whereas the centers located in villages are exclusively owned and operated by a company registered contractor. In the company owned stitching center located in central Jalandhar a supervisor is appointed by the firm to look after the working of the center and the quality of production. The center generally tends to have one or more contractors, who bring their own stitchers to work in the center. Some stitching centers have up to five contractors working at the same time. The supervisor issues the kits to the contractor/s in the center, who then distributes the kits to his stitchers working in the stitching center. The stitcher returns the stitched footballs to the respective contractor, who along with the supervisor inflates the ball to check for defect, and its repair by the respective stitcher. The company transport takes the stitched footballs back to the factory for packing and its dispatch to the foreign buyer.

The stitching centers in rural Adampur are operated by independent contractors, who own the premises where the center is located. These centers effectively work for only half a day, as the company employees bring the kits to the center only at 1.30 / 2 p.m. each day. The contractor then distributes the kits to the stitchers, who return back the stitched footballs. The company employees then inflate each ball to check for quality, and hand over the defective balls, if any, for repair to the stitcher. The vehicle then departs at approximately 6 p.m. with the stitched balls to the factory in

Jalandhar. The requirements for a contractor to open a stitching center are the availability of space and facilities of electricity, washroom and water. He is then responsible for providing these arrangements, taking the attendance of the stitchers, distributing the kits, inspecting the quality of stitched footballs and delivering them to the factory.

Work Conditions in Center-based Football Stitching

The mean income of the center-based stitchers that we interviewed was approximately INR 2370 (USD 50). However, this reflects a sharp gender-divide in the stitching population as male center-based football stitchers we interviewed had a mean income of app. INR 3417 (USD 72) whereas the female center-based stitchers had a mean income of INR 800 (USD 17). This gender difference is explained by male stitchers working on better quality balls with higher rates, working more hours, and stitching more footballs per day (4,3 on average) than their female counterparts (1,8 per day). The piece rates for stitching top quality footballs in a stitching center ranges between INR 28-36 per ball (USD 0, 59 – 0, 75). Almost all center-based based stitchers own their accommodation and many of them reported owning durable assets like refrigerator and television, etc. However, similar to the home based units, all the households surveyed lacked productive assets and any form of savings. Furthermore, the workers in the stitching center reported that none of them have ever taken loans or failed to construe the advances taken from the contractor as a form of debt.

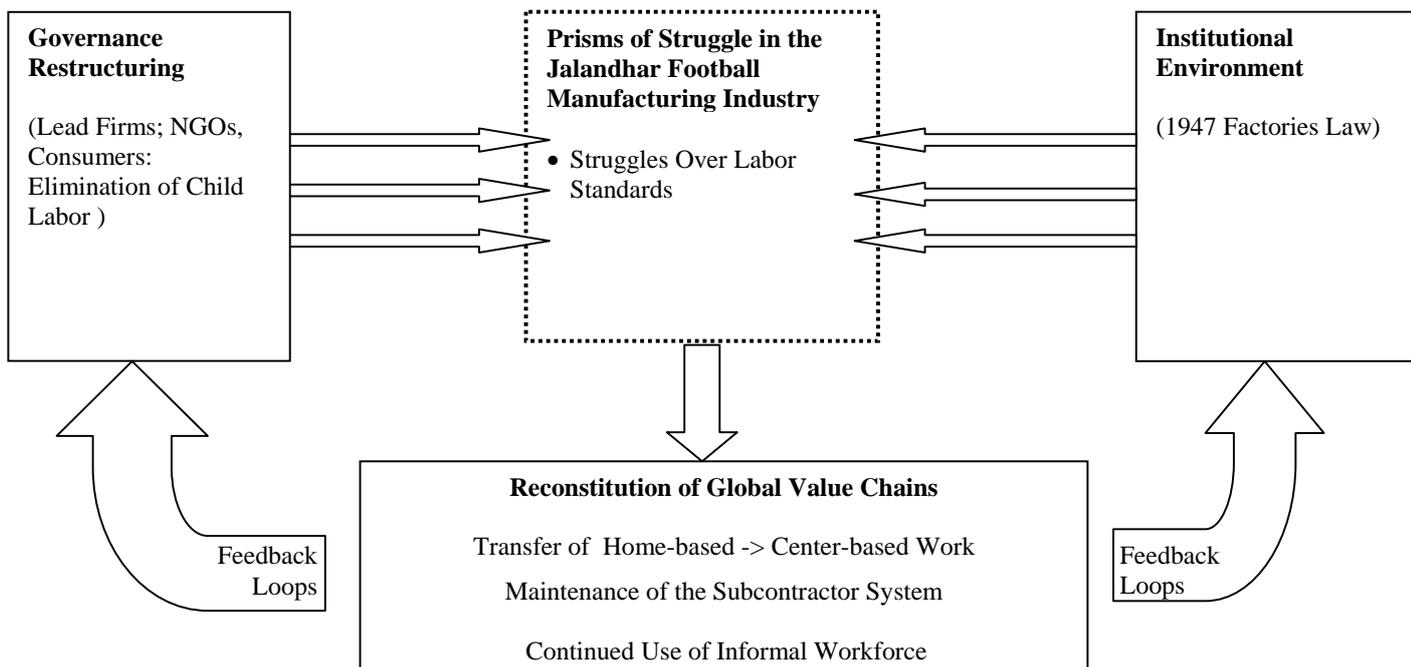
The work timings in the Jalandhar based stitching centers generally coincide with the factory timings, though some of them are open till late evening for stitching. A number of distinct differences are observed in the working of stitching centers based in Jalandhar and those situated in rural Adampur. In the city based stitching centers, the balls stitched are of top quality, or match/training balls, which

are difficult to stitch and therefore only male, skilled workers are hired. The stitchers work for approximate nine hours a day, either from 8.30 a.m. – 5 p.m. or 9 a.m. to 7 p.m. The stitching center also provides the stitcher with the flexibility to leave in between if there is a personal work. As some of the stitchers' family members also stitch footballs at home, they assist them in stitching balls on Sunday or in completing the tougher task of closing the football. A visit to some of the centers revealed that none of them are providing any social security or labor welfare benefits to the stitchers, the rates are fixed by the factory and there has been no increase in the piece rates of football stitching in recent years. In fact, the stitchers working there reported that the piece rates received for football stitching in 2009 are the same as those prevailing twelve years ago.

Unlike the city based stitching centers that employ male stitchers, the two centers in Adampur employ women stitchers residing in their vicinity. They work for approximately four to five hours per day, as the stitching center operates from 1:00 pm to 6:00 pm. After finishing their household chores the women stitchers reach the center at noon, when the kits have arrived from the factory. Though the stitchers are provided the flexibility to leave in between, some stitchers complain that the contractor is generally reluctant to give the permission. On the other hand, the contractors argue that they are liable to explain the stitchers' absence in the event monitoring is conducted by the company. The footballs stitched in the centers are promotional balls, and the stitchers are able to stitch 1-2 balls per day. The stitching center does not provide the facilities of fans for ventilation or stool to sit, and the stitchers are forced to carry the stool from their home to the center each day. Though the stitchers have been brought to the notice of the company officials several times by the workers, but the work conditions have not improved.

There is also urban-rural and gender differences in the bargaining power of the stitchers. It was found that the male stitchers are able to shift between different centers, either when a center closes due to lack of foreign orders, for more orders and better rates in another center, or for personal reasons. However, evidence suggests that the women stitchers working in the rural stitching centers do not have the same freedom to choose their work location. Some women stitchers in Adampur have reported that the contractor issues threat of stopping orders to them if they shift to a new center. Consequently, they might be compelled to work in a particular center even though there might be more work available in another center.

Figure 4: Value Chain Struggles in Jalandhar Phase II: Late 1990s



Summarizing this section, we can say that the end of the 1990s witnessed a new kind of value chain struggle being played out in the Jalandhar football manufacturing industry that once again centered

on labor standards in the industry. This is depicted in Figure 4. The initial phase in the 1950s and 1970s had mostly concentrated on how local firms could deal with buyer pressures in terms of increasing orders and seasonal shifts in these orders as well as avoid strict labor regulations laid down in the Factory Law of 1947. The result had been the outsourcing of footballs from factory-based to home-based locations. In the second phase of these value chain struggles, a more limited change was made as the stitching of some of the better quality footballs was moved from home to center-based locations in instances where the buyer required that the absence of child labor could be effectively monitored in the stitching process. However, this change facilitated the continued use of the subcontracting system even if the subcontractor was now becoming the manager of a stitching center as well. It also made it possible for the Jalandhar producers to continue circumventing the Factory Act of 1947 as the stitching centers could be kept deliberately below the size of 100 workers. Hence, in terms of consequences for workers, the introduction of the center-based model of work organization made very few, if any, improvements to the conditions under which football stitchers had to labor under. In fact, it may even have worsened some of the gender imbalances that already existed in home-based stitching.

Value Chain Struggles in Jalandhar Phase III:

From Center-based to Factory-based Football Stitching

We now turn to the third and final phase of value chain struggles in the Jalandhar football manufacturing industry which commenced in 2008 and is still ongoing at the time of writing this article (May 2011). In 2008, the value chain struggle about labor standards in the Jalandhar football manufacturing industry re-emerged as a significant factor affecting the future development prospects of the industry. First, the International Labor Rights Forum, a

Washington-based labor advocacy NGO, produced a report entitled ‘Child Labor in Football Stitching Activity in India: a Case Study of Meerut District in Uttar Pradesh’ which implicated the Jalandhar producers in the use of child labor in their subcontracted supply chains^{ix}. Second, another NGO report was released in the run-up to the 2008 Olympics in Beijing entitled ‘Clearing the Hurdles – Steps to Improving the Wages and Working Conditions in the Global Sportswear Industry’. The report claimed that football stitchers’ wages in Jalandhar had been stagnant over the past five years^x. Finally, the US-based HBO channel aired a programme entitled ‘Real sports with Bryant Gumbel’ on 16 September 2008^{xi} alleging that children were involved in stitching footballs in the supply chains of local Jalandhar manufacturers supplying UK-based soccer ball brand, Mitre.^{xii} In 2009, one of the largest firms in Jalandhar also lost the opportunity to land an order of several million promotional footballs which FIFA had put out a tender for via a Singapore-based firm. The proposed contract had required the Jalandhar-based firm to be financially liable in case any children were found stitching promotional footballs with the FIFA logo on it. As the damages that FIFA could claim would be astronomical, and because the Jalandhar-based firm did not have sufficient confidence in its own or the SGFI’s child labor monitoring system, it decided not to sign the contract that it was offered.

At the same time, by early 2011, a value chain struggle over supplier upgrading was becoming increasingly apparent. This struggle had been latent in the industry for almost a decade with Jalandhar-based firms discussing whether they should switch from handstitching to machine-stitching. As most of them were earning significant profits from their existing handstitching business, they had seen little or no incentive to upgrade their production facility to enable them to engage in machine-stitching. However, by early 2011, many of the firms were now being

compelled to make this switch or close shop as the demand for handstitched balls was rapidly coming to an end. Instead international buyers preferred to buy machine-stitched promotional balls. Hence, two of the leading manufacturers in the cluster informed us that they saw no future for handstitched promotional balls in Jalandhar. Some of the leading manufacturers in the cluster had received significant help from Mitre in order to be able to make the switch to machine-stitching. One of them informed us that half of their daily production of about 7,000 footballs now consisted of machine stitched balls while the remaining half was still in the form of handstitched balls. However, another of the larger manufacturers were completely out of orders as its main European customers had switched its entire sourcing to China where it was able to obtain promotional, machine-stitched balls at a lower price.

As the main competitive strength of the Jalandhar industry was in the low end promotional and training handstitched ball market, its future survival seemed to hang very much in the balance at this stage. As the title of this article states, the question was whether it was possible to make “a last minute save” by rapidly making the switch from center and home-based handstitching of footballs to factory-based machine-stitching of these balls. For those manufacturers who had managed to partly make the switch to machine-stitching, it appeared as if the introduction of machine stitching was associated with a move away from home-based and center-based football stitching towards factory-based stitching that was once again emerging as the dominant work form in Jalandhar. This switch was required as machine-stitching could not be undertaken in home-based units and instead had to be set up as part of production line inside the factory walls. As one manufacturer explained to us in early 2011, only the final step of the machine-stitching

process where the ball is closed using hand stitching could still be outsourced to center or home-based locations.

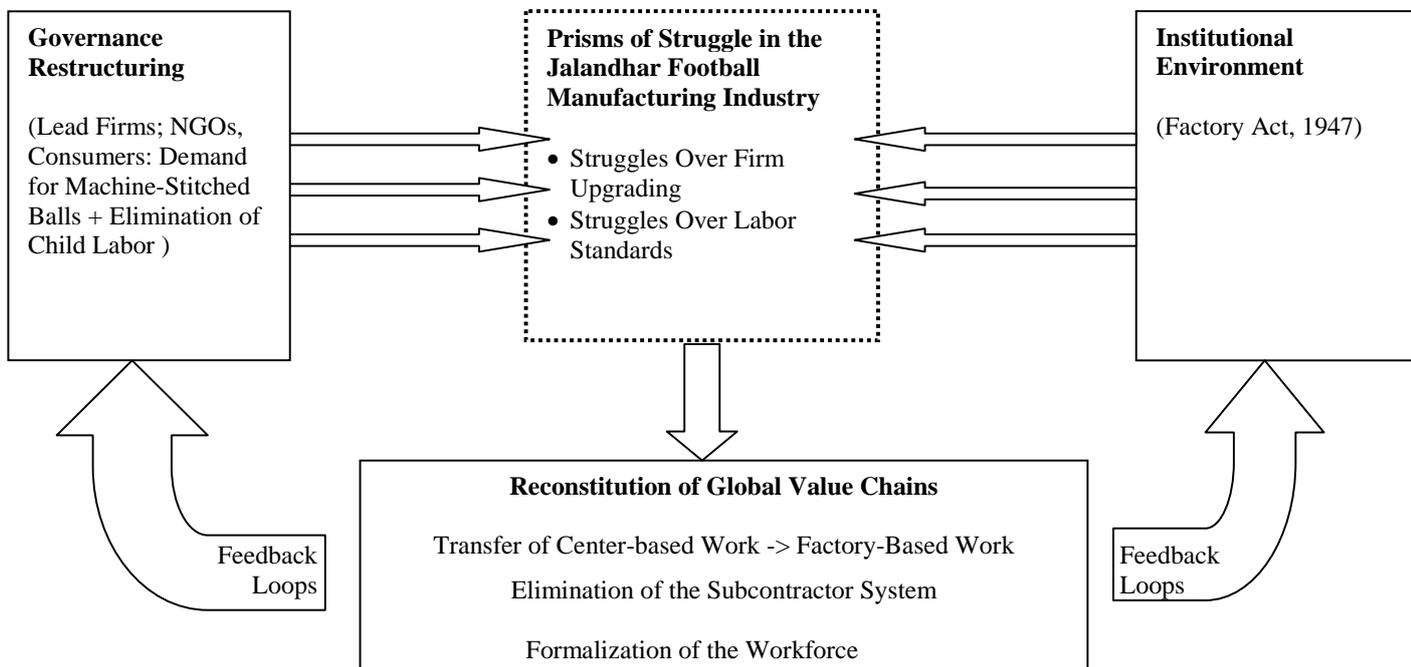
Work Conditions in Factory-Based Football Stitching

Whereas we did not make a full-fledged series of interviews with the machine-stitchers laboring on the new production lines inside some of the Jalandhar-based firms in May 2011, we did manage to establish that these were *not* former hand-stitchers that had shifted from home-based stitching to factory-based work. Instead the workers engaged in machine-stitching had often had previous training in the stitching of garments or leather items such as gloves that allowed them to relatively quickly pick up the skill of machine-stitching. The salary of a machine-stitcher working inside these factories was approximately INR 5.000 a month (USD 105) according to one of the factory managers that we interviewed. As the monthly income of home-based and center-based stitchers had been approximately INR 2370 (USD 50) for center-based stitchers and INR 2864 (USD 60) for home-based stitchers during our previous fieldwork in late 2009, factory-based stitchers received a substantially higher income than either center or home-based stitchers had done. In addition, the new factory-based stitchers were covered by the provisions established under the factory-based act. They were thus entitled to the legal minimum wage, compensation in case of lay-offs and other forms of social insurance that had neither been granted to center or home-based stitchers.

However, whereas the new factory-based machine-stitchers only numbered approximately 500 workers at the time of our visit in early 2011, the re-emergence of factory-based stitching as a dominant work form in Jalandhar effectively forced increasing numbers of home-based stitchers

out of the football manufacturing supply chain. One of the leading manufacturers told us that it had significantly reduced the radius from which they outsourced handstitched footballs in Jalandhar. At the same time, the company’s supply chain towards Batala had completely disappeared. Another leading manufacturer of promotional balls had once employed between 4.000 – 5.000 handstitchers in its supply chain prior to the 2006 World Cup. However, these home-based handstitchers were now out of a job. Finally, the process of insourcing production into the factories meant that the system of subcontracting was in the process of rapidly disappearing from the cluster as the demand for handstitched balls at the promotional level was vanishing.

Figure 5: Value Chain Struggles in Jalandhar Phase III: 2008 - ?



In summarizing this section, we can say that two simultaneous struggles are playing out in the third phase of value chain struggles that we have identified in this article. The first relates to the re-emergence of the struggle over labor standards within the industry, and the second to whether local producers should mechanize the stitching process through the introduction of machine-stitching technology. Whereas the first struggle has negatively influenced the image of the industry abroad and led to the loss of export orders, the second struggle constitutes a direct threat to the industry's survival. Hence, while some firms appear to be near closing shop, others are rapidly transferring home-based and center-based stitching into factory-based stitching. As a direct outcome, the subcontracting system is in the process of being eliminated, and the workforce is once again being formalized. In other words, if the first phase of value chain struggles resulted in a process of *deindustrialization* within the Jalandhar football manufacturing industry as factory-based stitching was transformed into a cottage industry, the third phase of value chain struggles has now led to a process of *re-industrialization* where a cottage-based industry is transformed into factory-based work once again.

DISCUSSION SECTION

What do we learn from this empirical analysis of the relationship between value chain struggles, changing forms of work organization, and outcomes for labor in the football manufacturing industry of Jalandhar? We contend that it is possible to analytically relate these value chain struggles, different forms of work organization, and outcomes for football stitchers in three idealized scenarios. We call these scenarios the virtuous cycle, the vicious cycle, and the real scenario for football stitching in the Jalandhar football manufacturing industry. Each scenario represents a possible future development path for the industry.

In the *virtuous cycle*, the international demand for machine-stitching footballs is rapidly replacing that of handstitching, meaning that the only way forward for the manufacturers in Jalandhar is to upgrade to mechanized production if they want to survive. In order to mechanize the football stitching process, production must be switched from home-based locations to the factories inside Jalandhar. In-house, factory-based football stitching facilitates an increase in the productivity levels of local manufacturers as well as compliance with the labor standards requirements of international buyers and local labor laws. However, while we call this a virtuous cycle, the home-based handstitching population is bound to be displaced. While some may be able to find new sources of work in other industries as India's economy keeps growing, others – especially – female home-based stitchers may be left behind which raises the question of whether any social protection mechanisms will be able to reduce the negative consequences of this industrial transition. In other words, engaging in supplier upgrading may here result in a win-lose outcome and have short term implications, where some firms and machine-based stitchers may gain from this industrial transition whereas others may lose out – as in the case of home-based female football stitchers that lose their source of income. However, in the second development scenario, the *vicious cycle*, if the manufacturers refuse to switch to machine-stitching, there will be both short term as well long term implications, where the local manufacturers will be forced to discontinue their business as the existing product that they are offering – i.e. handstitched footballs – will no longer be in demand. As a consequence both the home-based and center based handstitchers will lose their source of income and new jobs will not be created in the machine-stitching processes inside the Jalandhar football manufacturing firms. In other words, this is a lose-lose outcome where both firms and workers in Jalandhar pay the price for the industry's unwillingness to engage in supplier upgrading. This led us

to the third scenario, the *real scenario*. In the real scenario, the Jalandhar producers seemingly have the option of continuing business as usual with the production of handstitched balls and reliance on an extensive subcontracting system through which the stitching of footballs is outsourced to home-based and center-based locations. However, in reality, this is no choice as it leaves both the manufacturers and the footballs stitchers without any future source of income as the continued non-compliance with labor standards and refusal to upgrade technologically lead to an inevitable exit from the global football manufacturing supply chain. Hence, the only way forward in this Hobson's dilemma is to technologically upgrade, insource the stitching process inside the factories, and fully comply with international labor standards and local labor regulation if the Jalandhar producers are to survive.

CONCLUSION

In this article, we had an in-depth look at how the supply chain linkages and different forms of work organization have evolved in the Jalandhar football manufacturing industry in India from the mid-1950s until the beginning of the second decade of the new millennium. We argued that the changes observed in supply chain linkages and work organization within the industry can best be understood through the prism of value chain struggles. These struggles entailed debates between extra chain actors such as international NGOs and national regulatory bodies and intra-chain actors such as international buyers and local suppliers over supplier upgrading and labor standards compliance within the industry. Initially, factory stitching of footballs was switched to home-based locations as local suppliers were trying to cope with increasing international demand for footballs and the seasonal production cycles in the industry. This move was also a reflection of the producers' wish to circumvent national labor laws that would improve the conditions of the ever growing workforce

within the industry. Towards the end of the 1990s, as the Jalandhar producers were accused of using child labor in their subcontracted supply chains, some of the leading producers decided to switch part of their football stitching to designated stitching centers where the presence or absence of child labor could be strictly monitored. Once again this reflected a strategy on part of the local entrepreneurs that they should respond to the demands of international buyers and NGOs to the extent that they would be seen as acting in terms of eliminating child labor from their supply chains while ensuring that this did not give full rights to the workers under Indian labor laws. In the final stage of our analysis, we documented how the Jalandhar producers were caught out attempting to make a last minute transition to machine-stitching which would allow them to survive in the face of rapidly declining demand for their main product – handstitching promotional footballs.

What emerges from this analysis seems to be three interrelated points. First, international trade relations between the Jalandhar producers and their international buyers appear to be tilted in the favor of the latter. In other words, the geographical mobility of their buyers in terms of their ability to switch sourcing away from Jalandhar and towards other producer locations, China in particular, appears to far outweigh the ability of the Jalandhar producers to establish themselves in these other sourcing locations. However, while power relations are clearly unequal in this relationship, the apparent demise of the Jalandhar cluster also appear to be related to the constant refusal of local manufacturers to invent new production processes and comply with international labor standards and national labor legislation. In other words, the Jalandhar producers are partly responsible for the situation in which they now find themselves.

Second, while we agree with Wills idea that subcontracted capitalism is emerging as a world-wide force that puts an ever greater number of workers at risk in temporary, insecure, and socially unprotected forms of employment, our analysis also suggest that there appears to be limits to how far this process can go. In highly “labor standards” sensitive and technologically dynamic industries such as the internationally football manufacturing industry, the use of extensive subcontracting networks and informalization of the workforce may not necessarily be the way to gain competitive advantage in this industry. On the contrary, compliance with national labor laws and international labor standards as well as constant technological innovation appear to be a necessary albeit insufficient pre-condition for being able to compete in this international industry. At least if the suppliers want to sell into the high-end, high value end of the market dominated by international sports brands.

Finally, in terms of policy-making implications of our analysis, we end this article with a call for policy-makers, company managers, and labor standards activists to combine the analysis of economic forms of upgrading – e.g., the design of new products and manufacturing processes, with attention to how vertical supply chain organization and horizontal work organization co-produce outcomes for workers engaged in export-oriented manufacturing in developing countries. At present, those engaged in designing interventions that aim at technologically upgrading rarely think through the social consequences of the policies they advocate. However, labor rights activists mostly criticize the workings of the global economy for marginalizing workers in developing country export-industries without considering how economic forms of upgrading (or downgrading) may affect workers in positive or negative directions. Yet as we have tried to demonstrate in this article, issues of supplier upgrading and improvements in workers’ conditions in developing country export industries cannot –

and should not – be thought of as separate categories. Instead they need to be analyzed jointly as two interdependent factors.

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ⁱ The category of inflatable balls also includes other balls such as volleyballs, handballs, rugby balls etc. but footballs constitute the major part of this category of balls.

ⁱⁱ As per Article 24 of the Indian Constitution, no child below the age of 14 years is to be employed in any factory, mine or any hazardous employment. The Child Labour (Prohibition and Regulation) Act, 1986 prohibits child labor in certain occupations and processes alone and their conditions of work are regulated in the rest.

ⁱⁱⁱ In the last fifteen years, the role of regional production systems, particularly industrial clusters, in developing countries have also been widely debated in terms of their ability to effectively articulate joint action industry responses to external pressures for compliance with quality, social, and environmental standards that arise from their integration into global value chains (see e.g., Nadvi and Barrientos 2004, Tewari and Pillai 2005, Kennedy 1999, 2006, Nadvi 2007, Almeida 2008, Damiani 2008, Puppim de Oliveiira 2008, Pyke 2008, Mezzadri 2009). The role of joint industry action in facilitating compliance with international social and environmental standards is clearly also relevant in the case of the Jalandhar football manufacturing cluster. However, we have dealt extensively with this issue in an earlier article (Lund-Thomsen and Nadvi 2009). Hence, this article focuses primarily on the relationship between value chains, work organization, and outcomes for labor in the Jalandhar football manufacturing industry.

^{iv} There is also an emerging literature that focuses more specifically on the struggles that take place between international buyers and local firms, farmers, and workers over the social and environmental norms that ought to guide production in developing country export-oriented industries. These studies highlight that the values embodied

within Western corporate social responsibility standards, labor standards in particular, are often contested by local firms, farms, and workers. In fact, sometimes the imposition of the norms and values imposed through standards in global value chains are sometimes portrayed as a form of economic and cultural imperialism (see e.g., Blowfield and Dolan 2008, Lund-Thomsen 2008, De Neve 2009, Khan and Lund-Thomsen 2011).

^v Interview with Chairman of the Sports Goods Foundation of India, June 2010.

^{vi} The conversion rate between INR and USD was 47.7 reflecting the average daily exchange rate during the time of our primary fieldwork that was undertaken between July and December 2009.

^{vii} The minimum wages set by the Government of Punjab w.e.f. September 1, 2009 till February 28, 2010 for sports goods industry per day is INR 158.75 for Skilled (Upper), INR 147.67 for Skilled (Lower), INR 143.99 for Semi-Skilled (Upper), INR 137.831 for Semi-Skilled (Lower) and INR 130.71 for Unskilled worker.

^{viii} Interview with Mr. Ravi Purewal, Project Director, Sports Goods Foundation of India, June 2009.

^{ix} Ssee <http://www.laborrights.org/stop-child-labor/foulball-campaign/1734>, accessed 6 May 2011.

^x See http://www.playfair2008.org/index.php?Itemid=61&id=104&option=com_content&task=view, accessed 6 May 2011.

^{xi} See <http://soccer.fanhouse.com/2008/09/16/indian-child-labor-exploited-in-production-of-soccer-balls>, accessed 6 May 2011.

^{xii} In this program, several children were interviewed in front of the camera, detailing the physical and mental anguish that the child stitchers went through. However, Mitre subsequently launched a law suit in a Manhattan Federal court claiming that Mitre had interviews with the parents of some of the children portrayed in the HBO documentary. These parents alleged that they had been paid by the documentary's producers to let their children lie in front of the cameras. Two of the children also indicated that they had lied about squatting on dirt floors and missing school in order to have the honor of being on television. At the time of writing in May 2011, this law suit was still ongoing and has taken up a substantial amount of attention and financial resources in lawyer fees for Mitre and the HBO Channel.

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