ABSTRACT: The global value chain concept has become one of the most influential frameworks used in the study of globalization. The paradigm, however, is deficient in explicating the exploitative nature of global value chain governance. Based on a study of soccer ball production in China and Pakistan, this article analyzes global production from three perspectives: the role of the state in shaping the host countries’ mode of production and legal framework, the issue of how surplus value is created and distributed, and the use of child labor or prison labor to remain competitive in the chain. The article shows, in the case of Pakistan, how a country using a lower-labor-costs strategy to retain a place in a global value chain allows its workers to be exploited and pauperizes its people.

Two main bodies of publications deal with global production and labor conditions: (1) studies by academics and by official international institutions, and (2) studies undertaken by labor advocates and practitioners. Academic studies and those of establishment institutions frequently situate themselves in the theoretical framework of the “global commodity chain” and “global value chain”; workers do not take center stage in these analyses, except on the issue of supplier firms’ compliance with corporate codes of conduct and the efficacy of social monitoring programs. In contrast, empirical studies undertaken by labor nongovernmental organizations (NGOs), trade unions, and labor advocates start from the premise that multinational corporations are driving down factory labor conditions in the producer countries. For instance, in studies of the soccer ball industry, their focus has been on child labor and low wages.

In this article we address both genres of studies. Soccer ball production pro-
vides an interesting context in which to study the relationship between globalization and working conditions and to examine the validity and utility of the global value chain framework as well as development theory.  

The soccer ball industry is not one of the world’s largest, nor does it involve a strategic commodity. But soccer often symbolizes national identity, whipping up the patriotism of sports fans to fever pitch once every four years with the World Cup. The anti-sweatshop movement has taken advantage of the World Cup tournaments to target global sports goods companies such as Nike, Adidas, and New Balance for poor working conditions and the possible use of child labor in their supplier factories; the movement’s publicity campaigns have attracted wide international attention.

In the mid 1990s child labor was discovered to be widely used in Sialkot, Pakistan, then the world’s main center for producing high-quality hand-stitched soccer balls. In 2010 Sialkot exported 30 million balls, which was estimated to comprise about 70 percent of the global output of hand-stitched soccer balls. The ensuing scandal created an outcry around the world, embarrassing the leading sporting goods companies. In 1997, the International Labour Organization (ILO) entered the fray and facilitated the so-called Atlanta Agreement, in which multiple stakeholders signed on to establishing a monitoring system to eliminate child labor. That scandal forms a backdrop to this study. Fifteen years

1. See, for example, Gereffi, Korzeniewicz, and Korzeniewicz 1994; Bair 2005; Gibbon, Bair, and Ponte 2008.
2. See, for example, India Committee of the Netherlands 2000; Hong Kong Christian Industrial Committee 2002; Play Fair 2008; Bachpan Bachao Andolan 2008; International Labor Rights Forum 2010.
3. See, for example, Khan 2008; Khan, Munir, and Willmott 2007; Nadvi et al. 2011; Lund-Thomsen et al. 2012.
on, what has happened to child labor, to labor conditions, indeed to the hand-
stitched soccer ball industry in Sialkot?

Today, Sialkot faces stiff competition from China, whose soccer balls began to enter the global market in the early 1990s. China has overtaken Pakistan to become the world’s largest soccer ball producer. By examining the threat to the industry in Pakistan and the rise of China, we want to re-center the focus from corporate chain governance to the distribution of value between the lead firms at the head of the chain and the workers at the bottom of the chain.

This research is part of a larger study of the soccer ball industry in China, Pakistan, and India that we have undertaken with three scholars from Denmark, the United Kingdom, and India. Each of the team members has visited one to all of the three field sites, in some cases multiple times. Between 2008 and 2010, the team interviewed a number of high-level staff of sports brand companies in the United Kingdom and other European countries, Hong Kong, and Guangzhou, as well as many supplier factory owners, managers, and workers (including seventeen manufacturers in China and eleven in Pakistan), several dozen trade agents, trade union officials, and officers of employer associations and NGOs in Pakistan and China. An open-ended questionnaire was used to collect standardized data from factory workers.

In the next section of this article we critique global value chain studies, and then provide an overview of soccer production in the world. The third section discusses the legal frameworks and economic development strategies of China and Pakistan that influence production. In the fourth section, we question the benefits workers have gained from technological upgrading of the industry. The fifth section is concerned with the corporate social responsibility (CSR) initiatives of multinational corporation and their effectiveness.

Critique of the Global Commodity Chain and the Global Value Chain Concept

Jennifer Bair, in a thorough critique of the “chain literature,” asserts that the global commodity/value chain perspective has become one of the most widely used frameworks in globalization studies since the mid 1990s. These chain studies originate from Immanuel Wallerstein’s world-systems theory, which provided the basis for the global commodity chain approach. The world-systems paradigm is a macro historical theory of global capitalism aimed at explaining inequality and the dependency of the developing world on the developed world. The global commodity chain framework developed by Gary Gereffi and his colleagues concretized the commodity chain at a meso level and

5. The two authors of this article were not able to go to Pakistan. We thank Peter Lund-Thomsen from the Copenhagen Business School for sharing his data with us. In addition to Pakistan and China, the project also examines the soccer ball industry in the city of Jalandhar in northwest India, where one of us has visited soccer ball factories. Because Jalandhar is a small player in the industry we use data on Pakistan and China only.


micro firm level. This has led to an overwhelming concern with how institutional actors interact within chains in global sectoral industries. A major contribution of global commodity chain theory was the transition made during recent decades from supplier-driven chains dominated by manufacturers to buyer-driven chains dominated by multinational brands.9

Gereffi and his school elaborated the concept of the global commodity chain with research on global value chains,10 a major goal of which is to delineate the variances in governance structures in different industries, both within and between different sectors, from the perspective of international businesses and firms. They used the term “buyer-driven global commodity chain” to “denote how global buyers used explicit coordination to help create a highly competent supply-base upon which global-scale production and distribution systems could be built without direct ownership” and asserted that the big lead buyers “can and do exert a high degree of control over spatially dispersed value chains even when they do not own production.”11 Rather than see this as disadvantageous to those who fall under this control, the global value chain school emphasizes the “benefits of access” and “net gains” enjoyed by producers in the developing countries. Gereffi and his collaborators conclude:

One of the key findings of value chain studies is that access to developed country markets has become increasingly dependent on participating in global production networks led by firms based in developed countries. Thus, the governance of global value chains is essential for understanding how firms in developing countries can gain access to global markets, what the benefits of access and the risks of exclusion might be, and how the net gains from participation in global value chains might be increased.12

Other authors have developed a “global production network” approach to correct deficiencies they see in the global value chain literature, by emphasizing the institutional, societal, and territorial embeddedness of commercial operations and asymmetric power relations between actors.13 Global production network scholars tend to examine subnational regional development and clustering dynamics. As this and the other related strands of global chain studies engage in dialogue and interact with each other, analyses on global governance in production have emerged as the most prominent literature in globalization studies.

In our judgment, however, these chain governance studies pay too little attention to wealth distribution within chains and fail to focus on working conditions and labor relationships, or, within the CSR framework, at most touch briefly on labor issues as overly dependent on the power that the lead firms exert.14 Within this governance structure, the lead firms define the param-

11. Ibid., 82.
12. Ibid., 99–100.
eters to be met by other actors in the chain to the exclusion of external actors such as the state, NGOs, or trade unions. Workers at the end of the chain barely figure in such studies. Global value chain studies sometimes assume that technological improvements by lead firms will result in improved labor conditions—that suppliers who fail to comply with the labor conditions or technological improvements that the lead firms require are dropped from the chain.

Bair queries who in the chain structure benefits from such upgrading, since empirical evidence around the world has shown that even workers in successful supplier firms can suffer from substandard conditions and job insecurity. And she suggests that global value chain researchers should expand their studies to look into state regulatory regimes, international trade regimes, and a host of other political, economic, and social factors that are external to the chain.15

We are in broad agreement with Bair’s argument: our critique of the global commodity chain and global value chain thesis and of the soccer ball manufacturing chain in particular parallels hers. Academic studies generally accept the chain’s theoretical framework as a given rather than analyzing the empirical data to critique the theory. In this article, we would like to enter a debate on global chain studies by focusing on the following three inquiries.

1. Value for Whom?

First, it is important to clarify the meaning of “value” as used in global value chain writings, followed by the question of value for whom. Gibbon, Bair, and Ponte think value in the global value chain analysis has two components: first, how and by what processes value is created; and, second, how and by what processes the resulting value is distributed.16 From their point of view, the creation of value is related to “upgrading,” including firm upgrading and regional development, while the distribution of value is related to how wealth and income are distributed in the global commodity chain.

Few studies on the global value chain discuss the role of suppliers and workers in the creation and distribution of “value,” however. The mainstream literature assumes that if local producers can increase profits through upgrading, labor conditions will improve and the upgrading process will result in higher compensation for the workers.17 Yet Knorringa and Pegler have demonstrated that a firm’s upgrading pushed by economic globalization does not, as a rule, lead to improvements in labor conditions in developing-country supplier firms. Upgrading does not appear to affect strategies to squeeze labor.18 In fact, after investigating “lean production” in global value chains, Raworth and Kidder have found that both supplier factories and workers are subjected to increasing pressures to produce faster and cheaper.19

The asymmetric power relationship between actors determines the distribu-

17. See, for example, Coe et al. 2004; Nadvi 2004; Nadvi 2008.
tion of “value” in global value chains. At each stage and hierarchy of the production process in the chain, the more powerful appropriate the lion’s share of the value created. It is a zero-sum game. Paying workers one cent less means one cent more for the producer. As Palpacuer points out,20 the lead firms at the top have been capturing ever-increasing amounts of wealth at the expense of other groups, particularly suppliers and workers at the bottom.21

2. The Limits of CSR Regulations

Bair’s critique stops short of questioning the multinational corporations’ motivation in creating the regulatory rules in chain governance. Their CSR and ethical trade initiatives have proliferated in response to global campaigns against poor working conditions in global production chains. But Barrientos and Smith find that the corporations’ codes of conduct have led to little change for workers because the initiatives do not challenge the existing commercial practices or embedded relations that underpin poor labor standards in global production systems.22 Global value chain studies, focusing at a “higher level” and thus writing from the lead firms’ vantage point, do not critically dwell on the concrete consequences of the top-down power relationship between lead

21. According to an NGO report, Nike’s before-tax sportswear profit between 2004 to 2007 was 51.7 percent, for Adidas it was 68.3 percent, for their biggest supplier it was 28.9 percent. See Play Fair 2008, 13. In electronics, Apple’s profit margin in January 2012 was 50.8 percent, whereas its biggest supplier, Hon Hai (Foxconn), had a profit margin of only 1.5 percent. Culpan 2012.
firms and suppliers and workers. Our article will illustrate how lead firms are the fountainhead and not just accomplices in the problem.

3. The State’s Role in Global Production Chains

Although economic globalization facilitated by capital mobility and flexible accumulation has undermined state regulations, the role of the state cannot be ignored when studying the governance of global production chains. Critics of corporate governance advocate bringing the state back. National laws place some constraints on multinational corporations and suppliers, in that they either have to abide by the laws or find loopholes to avoid them. National and local governments also play an important role in shaping how macro political, economic, social, and cultural environments influence working conditions and labor relations. In a later section, we will examine how the state’s intervention in China and Pakistan has affected the functioning of the chain.

Global Soccer Ball Production

Industrial goods have been produced in the past two centuries either by hand or with the aid of mechanized tools—the former usually by individuals at home or in small groups in cottage-industry-like settings; the latter, mass produced in factories. The majority of goods today are made in factories. Soccer balls are unusual in that until recently hand-stitched balls were considered superior and constituted a large percentage of the global market.

Hand-stitched balls have been produced in Asia for export since the late nineteenth century, when Sialkot in Pakistan began to produce leather sports goods for the ruling British. Sialkot dominated the world’s production of soccer balls for more than a century. The balls were produced largely at home or in small workshops. Before the invention of synthetic material, the 32 panels of a ball were made of very tough leather, and it took the strength of a man to stitch them together. Softer PU and PVC synthetic materials, which began to be used at the end of the 1970s, gradually replaced natural leather. The introduction in the 1980s of machinery for punching holes in the panels made stitching the panels together much easier. These two technological upgrades ushered in the employment of women and children.

The soccer ball market expanded rapidly in the 1970s, and hand-stitching could not keep up with global demand. But not until 1997 was a machine-stitching technology invented. The first machine-stitched balls were made in China by an Adidas supplier, the Taiwanese-owned Top Ball Corporation, in Dongguan, Guangdong Province, and the soccer ball industry quickly entered an era of mass production of soccer balls. The machine-stitched balls were regarded as inferior to hand-stitched balls, however, and the continued demand for high quality hand-stitching allowed Sialkot to survive. Nonetheless, machine stitching seriously undercut the market for hand-stitched balls because the for-

25. Interview with the owner of the company, Jiujiang, 12 May 2010.
mer can be produced seven to eight times faster. At most a hand-stitcher can make five balls a day; whereas in factories, workers using industrial sewing machines can produce thirty-five to forty balls a day. The Pakistani suppliers held on to their tradition and refused to respond to the challenge. Only recently did a few Sialkot producers realize that to survive they needed to adopt modern technology and mass produce balls. Assisted by multinational corporations that wanted to diversify their sourcing channels, these Pakistani soccer ball employers visited to China to learn more about factory production. Still, as of 2011 only four small machine-stitching factories have been established.

The Sialkot hand-stitching cluster consists of 390 registered manufacturing firms and 2,600 small registered stitching units; in China about 200 machine-stitching factories dominate production. In Sialkot 30,000 workers produce 180,000 hand-stitched balls a day; in China the largest factory alone can churn out 70,000 machine-stitched balls a day. Together China and Pakistan accounted for 64 percent of total global inflatable balls produced in 2009, China taking up 51 percent and Pakistan, 13 percent.

In 2000, yet another technological upgrading challenged the superiority of hand-stitched balls. Adidas invented a new production technique called thermal bonding that uses intense heat to mold the panels together without stitches. These expensive balls replaced hand-stitched balls as top-end official match balls in international sporting events such as the World Cup in 2006 and the Beijing Olympics in 2008. Initially, all of the thermo-molded balls were produced in Thailand by an Adidas Japanese supplier firm. Adidas soon had

26. Machine-stitched balls are produced on assembly lines. For example, the standard machine-stitching production line in a large factory averages 12.5 workers (one specialized worker serves two assembly lines). The basic production task of a team has been 450 balls a day, which means each factory stitcher’s productivity is equivalent to 36 balls.
28. Ibid.
29. Data from the UN Comtrade database 2010, cited from Nadvi et al. 2011, 340.
32. Fuller 2006.
them made in a factory in Shenzhen for the World Cup in 2010. These new balls threaten to squeeze Sialkot out of the top-end market. One of Adidas’ major suppliers in Sialkot has started to produce thermo-molded soccer balls, but China has already captured a large share of the market. These technological changes have set in motion fierce competition among manufacturers in the producer countries, with grave repercussions on workers’ livelihoods.

The Role of the State: Regulatory Frameworks and Scale of Production

As a rule, formal sector factory workers enjoy higher wages and better work conditions than informal workers, in particular home workers. This is true in Pakistan and also true across countries. Chinese factory workers enjoy considerably better conditions than Sialkot hand-stitchers. What factors have led to this bifurcation? We argue that state intervention external to the private sector production chain has had an overarching impact. Pakistan and China have very different political and economic systems. Pakistan has a neoliberal capitalist system, while China has a much more interventionist economic policy affected by China’s prior experience of a command economy. Both countries have offered cheap labor to the global market. But while Pakistan continues to take the low road, selling its labor at a very low cost, China has taken a comparatively higher road. Its labor is better educated and healthier, augmented by a more efficient supply chain, funding for research and development (R&D), and upgraded industrial capacity. Political systems engender specific labor regulatory regimes within which businesses have to adapt and operate. Despite half-hearted enforcement of the laws, these regulatory regimes still affect how and the extent to which corporations extract surplus value from workers. No matter under which system, capital will endeavor to maximize profits within the given system.

Pakistan once had a vibrant labor movement among urban factory workers, but the political regime suppressed it when the movement became militant and when it began organizing across industries. Labor laws passed in the late 1960s and 1970s deregulated labor, effectively dividing labor into two categories: formal workers protected by law and informal workers excluded from legal protection. As an ILO publication described the situation, labor policies were strongly “industrial relations-centric” in the sense of concentrating on labor relations in the formal sector that closely mimicked the “West.” Industrial labor relations in the unorganized sector in contrast were largely ignored. Taking advantage of the law, Sialkot employers quickly informalized the workforce by shifting from employing factory workers to outsourcing through the use of subcontractors who collect finished products from home workers, thereby stripping the labor force of legal protection.

Home workers did not come under minimum wage protection, which applied only to formal workers. Formal workers were also entitled to overtime compensation, social insurance, the right to form a union, and collective bar-

gaining.\textsuperscript{34} The legal minimum wage for formal workers continued to rise from PKR1,500 (US$24.60) a month in 1992 to PKR7,000 (US$84.80) in 2010.\textsuperscript{35} The wage gap is enormous between formal and informal workers, even though, according to one estimate, 80 percent of the formal industrial workforce was paid below the legal minimum wage.\textsuperscript{36} Sialkot’s employers successfully cut labor costs by greatly reducing the number of formal workers, simultaneously reducing the risk of industrial disputes. They believed that as long as the wages were low enough, they could compete.

Today soccer ball hand-stitchers are among the country’s lowest paid workers. In 2009 Sialkot’s full-time home stitchers were paid by piece rate at around PKR20–30 per ball. They work on average (when orders are sufficient) six to eight hours a day and only make about PKR100–125 (< US$1.50). Home workers who were interviewed by our colleague Peter Lund-Thomsen live from hand to mouth. They have few possessions and no savings. We have yet to hear that any of them have organized themselves to negotiate with the subcontractors for higher rates. On the contrary, they are grateful to their subcontractors who bring them the ball panels. Stitchers who are grouped together in stitching centers are somewhat better off as a result of the multinational lead firms’ monitoring programs, earning PKR40–50 per ball and about PKR150–250 a day. In 2009–2010, according to interviews, the median monthly incomes of home-based stitchers and center-based stitchers were approximately PKR2,275 and PKR5,460, respectively. Even the latter was below the legal minimum wage.\textsuperscript{37} Most home stitchers, who constitute the majority of soccer ball stitchers, make less than half the minimum wage. Almost the entire workforce of this industry has been pauperized. Government policy and the Pakistani legal framework are responsible for creating an intense exploitation of its own people.

In contrast, China does not encourage the decentralization of labor. Socialist ideology was “the bigger the better,” and cottage industry has been regarded as “backward.” Small entrepreneurs were denigrated as “petty bourgeois.” The Pearl River Delta hosts some of the world’s largest manufacturing companies, such as Taiwanese-owned Yue Yuen, the largest sports shoe company, and Taiwanese-owned Foxconn, the world’s largest electronics company. Production facilities employing tens of thousands workers abound in the factory compounds of such corporations, with the largest, a Foxconn site in Shenzhen, Guangdong, employing a quarter of a million people. Transport, logistics, and shipping are world class. The factory production system strives for economies of scale, production efficiency, technological upgrading, mechanization, automation, and more recently, lean production. The world’s largest soccer ball factory today is Taiwanese-owned Kuan Ho (Top Ball) Sporting Goods. Since

\textsuperscript{34} This legal distinction between formal and informal labor derives originally from British colonial statutes. The Payment of Wages Act of 1936 excluded industrial workers in establishments with fewer than fifty workers from the legal rights possessed by the formal labor sector.

\textsuperscript{35} In 2011 some home workers were making only PKR2,000 a month (US$24) working ten- to twelve-hour days. See Ali 2011.

\textsuperscript{36} Zaheer 2010.

\textsuperscript{37} Lund-Thomsen et al. 2012.
In 2008, it has moved many of its production lines from Guangdong to Jiangxi Province to take advantage of cheaper labor costs and better investment benefits. In 2010, its soccer ball factory in Jiangxi hired about 7,200 workers.

An important difference from Pakistan is that Chinese labor laws do not categorize workers into formal or informal, organized or unorganized, regardless of whether the facilities are big or small. Unlike in Pakistan, employers have no incentive to dismantle factories and subcontract production to home workers. Subcontracting tier by tier down to the home does exist in China, but this is not the norm.

Before the advent of machine-stitching, hand-stitching existed in China, most of it done by home workers, as in Sialkot. Jiangsu Province near Shanghai was the original hand-stitching center. In the late 1980s, rural women there stitched balls during agricultural slack seasons for subcontractors who obtained the orders from sports goods factories in Shanghai. At the peak of the hand-stitching football industry in 2005–2007, there were so-called football towns where more than half of the rural women engaged in this work. When we visited some of these towns in 2009–2010, we found that almost all of the rural women forty to sixty years old had once been home hand-stitchers. It was never the main occupation for them, however, unlike in Sialkot. To supplement their farm income they worked three to five hours a day stitching about two balls each. When the piece rate remained unchanged for some years, and as other industries such as garments, textiles, and bags arrived on the scene paying higher wages, many of the home workers abandoned ball stitching. Some went to work full-time in local factories or workshops for higher pay and a steady income.

Soccer balls are ready to package on the shopfloor in a sporting-goods factory in Nanjing. Unlike in Pakistan, employers in China have no incentive to dismantle factories and subcontract production to home workers. Subcontracting tier by tier down to the home does exist in China, but this is not the norm. (Credit: Hong Xue, 25 March 2009)
When factories were established in the region to mass produce machine-stitched balls, the market for hand-stitched balls shrank. For example, a factory in Nantong in 2004 produced 10,000 hand-stitched balls per day; in 2009 it produced 7,000 machine-stitched balls and only 2,000 hand-stitched balls. Since then, hand-stitching by home workers in China has almost disappeared.

In China, minimum legal wages are set annually by city governments in accordance with the local cost of living and the prevailing wage. The minimum wage covers a particular region and is not based on the type of work or the skill required in an industry. Table 1 shows the minimum wages in the cities and rural towns where our field sites were located in 2009–2010.

Table 1: Official minimum wages at Chinese field sites, 2009–2010, RMB (USD)

<table>
<thead>
<tr>
<th>City</th>
<th>Guangdong</th>
<th>Jiangsu</th>
<th>Jiangxi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dongguan</td>
<td>Zhaoqing</td>
<td>Nanjing (Urban)</td>
</tr>
<tr>
<td>2009</td>
<td>770 (113)</td>
<td>580 (85)</td>
<td>850 (125)</td>
</tr>
<tr>
<td>2010</td>
<td>920 (135)</td>
<td>710 (104)</td>
<td>960 (141)</td>
</tr>
</tbody>
</table>

Although Chinese factories often violate the legal minimum wage, especially through overtime work that pays less per hour than legally stipulated, employers still use the minimum legal wage as a benchmark for setting the pay for the first forty hours of work per week. So workers' take-home pay when orders are slow and there is no overtime work normally reaches the minimum wage per hour. In the soccer ball industry, most workers are paid by piece rate, with monthly wages ranging from RMB1,300 to 1,800 (US$191 to $264). It is normal for them to work more than sixty hours a week, sometimes even more than seventy-five hours a week. During the slack season, when overtime is not needed, workers receive the minimum wage. Though wages for home production are not regulated by law in China, the minimum factory wage has a spillover effect on the home pay.

Factory workers’ labor rights consciousness is higher than that among isolated home workers. Factory workers use labor laws as legal weapons and when these are violated they sometimes embark on collective action to claim and protect their rights. They ask for higher wages, less overtime, legal overtime compensation, more humane treatment, and so on. In our fieldwork in Guangdong, we found that stoppages and strikes on the shop floor were very common, especially in large factories. In one case, in May 2009, 2,000 workers of the largest company, Kuan Ho, went on strike in Guangdong over compensation for relocation to the company’s new plant in Jiangxi. In June 2010, more than 1,000 workers at the new Jiangxi factory destroyed part of the firm’s administrative offices to protest mistreatment. While Chinese stitchers’ conditions are better than those in Sialkot, by no means do the Chinese workers enjoy de-
cent working conditions by ILO definitions. Their work hours are long and the wages are low by China’s standards.

Upgrading, but Value for Whom?

As noted, the global value chain thesis regards product upgrading and process upgrading as value-adding. Upgrading is considered as a high-road strategy that can help gain a competitive advantage; whereas squeezing labor by paying low wages and imposing poor working conditions is a low-road strategy that depreciates value. As Peter Utting has pointed out, the widespread implementation of CSR by multinationals should have led to a fairer redistribution of wealth in the production chain, but instead corporations’ profits increased while those of workers decreased. This is the case with the soccer ball production chain. There has been technological upgrading through machine stitching and factory production in China. Factory workers have higher wages than home-based stitchers in both China and in Pakistan for the reasons we have explained. But their compensation remains far below the much greater value they have created. The same applies to workers making thermo-molded “Jabulani” balls used for the 2010 World Cup. The much higher price of these balls does not translate into higher incomes for the workers in Shenzhen, China, who labor up to twelve hours per day, making a monthly wage of RMB1,700–1,800 (US$250–264)—not even enough to buy two Jabulani balls. Technological upgrading here has not

42. Utting 2007.
43. Yan 2010.

Xue and Chan / The Global Value Chain
led to better conditions and wages for workers.

“Lean production” is yet another innovation in manufacturing introduced by Adidas and Nike into soccer ball production. An informant from the Adidas Corporation proudly explained to us, “lean manufacturing reduces waste, reduces inventories, reduces manufacturing time and streamlines how people work on the lines by shortening the task cycles.” A supplier who complied with Adidas’ imposition of lean production in 2003 had a very different view. Lean production did help him save on labor costs, but his workers resisted speeding up the assembly line and also resisted a new incentive system that was not advantageous to them. It took him two years to stabilize the new production regime in his factory. The key reason for his eventual success was that he saved costs because of a larger scale of production with his labor force of more than 2,000 workers when stable orders from brands got signed. But many small and medium-sized suppliers have found great difficulty in implementing the new lean production system. For example, a supplier with 300 workers thought it was not a good experience. Besides facing substantial resistance from workers, the one-year experiment failed to reduce costs.

As their resistance suggests, workers themselves did not benefit at all from leaner production processes. They worked about sixty hours a week (though the hours were not as excessive as before), and they now worked under greater pressure to fulfill larger quotas. With less overtime work, their take-home pay for the month decreased. In other words, higher productivity benefited the company, not the worker, who had to work faster within a shorter period and for an overall reduced income. Workers are even worse off if a company does not pay an overtime premium. Take, for instance, a twelve-person team at one factory that previously had to finish 450 balls a day; now the daily quota is 500 or even 650 balls. A female worker complained that even when she worked harder to meet the increased production target, she did not receive a higher wage that matched her increased input. The faster the stitchers worked, the lower their piece rate per item. Moreover, with piece rates they were not paid overtime. Given the faster-paced and shorter work cycles (meaning they had to repeat the motion more times within the same unit of time), computed in seconds, workers also suffered from more occupational health problems.

Even when the multinational corporate buyers such as Apple or the leading sports goods companies make a high profit they tend to adopt a lower-price sourcing policy. In our fieldwork in China, many suppliers complained that their earnings were diminishing each year—given the price squeeze imposed by their multinational corporate purchasers, the rising costs of materials, and a higher exchange rate for the Chinese yuan. But they could hardly negotiate for higher sourcing prices with their buyers. One supplier said that he felt lucky if the price was not cut. In 2009, a supplier was finally able to negotiate a higher price with a buyer, but after a few months he offered to reduce the price for fear

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44. Interview with Adidas management official, Guangzhou, 11 May 2010.
45. Interview with a manager, Shanghai, 27 January 2010.
46. Interview with worker, Dongguan, 7 November 2009.
he would lose production orders the next year. A general manager in 2008 sold a ball at US$2.00 to an American retailer, but in 2009 the same ball was sold at US$1.60, despite rising production costs. Under the asymmetric power relationship between large brand-name buyers and too many suppliers competing for orders, the only ways manufacturers can turn a profit are by keeping down the take-home pay of workers, resorting to subcontracting, adopting leaner production processes, relocating factories to lower-wage areas, or finding loopholes in the legal system. These strategies, we have found, are widely used in many of the labor-intensive manufacturing industries in China.

**Child Labor and Prison Labor**

There is yet one more strategy to cut costs—using the cheapest of labor. For Pakistan this is child labor and for China, prison labor. One of the easiest ways child labor gets involved in production is by way of subcontracting to home workers. When home workers are paid too little to sustain their families they have to put their children to work to supplement their meager income.

An investigation conducted by an Indian NGO in 2008 revealed a close relationship between home production, an abysmal wage, poverty, and child labor in the soccer-ball production city of Meerut, India. The data showed that the children who helped stitch and did not go to school were all from the poorest of households. Families that had other sources of income and supplemented this income with stitching could afford to send their children to school. In the survey none of their children engaged in any stitching. The report disclosed a serious problem in the hand-stitched soccer ball industry, namely, child labor as a function of adult labor income: had adult stitchers been paid enough to sustain their families, there would have been no necessity for their children to work.

Therefore, the most effective solution to the scandal in the mid 1990s, when child labor was discovered in brand-name soccer-ball production, and for which the Atlanta Agreement was signed in 1997, was for the brand-name corporations to raise the piece rate of adult home stitchers. This could be done by giving the subcontractors a higher price and establishing a monitoring system to ensure decent piece rates were being paid.

But the stakeholders who signed the Atlanta Agreement to eliminate child labor in soccer ball production in Pakistan did not raise wages. Instead, home workers were made to work in so-called “stitching centers” set up by the manufacturers. This gave rise to a new form of labor organization in which a substantial number of balls are produced. The centers are not employers as such, but only venues for the individual stitchers to work at one place to facilitate easier monitoring of child labor. The piece rates for center-based workers tend to be higher than for home workers, but still well below the minimum

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47. Interview with a CSR manager, Shanghai, 27 January 2010.
48. Interview with a company general manager, Guangzhou, 14 January 2009.
wage. The Agreement, launched with much fanfare, was not intended seriously to tackle the roots of child labor, in our estimation. Monitors or ILO field team members were not instructed to provide stitchers with information on the ILO core conventions or on labor rights. The unsaid purpose was to eliminate the symptoms but not the cause of poverty-driven child labor. Most of the brand-name multinational corporations saved money by adopting the stitching center option.

Nike’s solution to child labor, for instance, was to eliminate home workers by turning entirely to large-scale stitching centers. In 2006 Saga Sports, Nike’s supplier in Sialkot, employed 5,257 piece-rate, center-based workers out of a workforce of 7,637. Eighty-four percent of all the workers stitching for Saga Sports were paid less than the monthly legal minimum wage. Moreover, despite assurances to Nike, Saga Sports subcontracted production to home workers. When Nike discovered that home workers were being used, it cancelled production orders to Saga Sports and shifted to sourcing from China, causing sudden large-scale unemployment in Sialkot.

In 2009 and 2010, home stitching remained quite prevalent in Sialkot in soccer ball production for other brand-name companies. When monitors do their rounds of inspections at the home workers’ houses, the visits are checked off as unproblematic if no children were sighted stitching. The economic circumstances of the adult stitchers fall through the cracks. In this sense, we believe that the issue of child labor has actually diverted the world’s attention away from the exploitation of adult stitchers. One could even argue that while monitoring has reduced the reliance on child labor in the industry in Pakistan, it has not touched upon the serious and increased exploitation of adult home workers. Evidence of this is clear, as explained above: wages of home workers have not gone up for some ten to twenty years, despite a rise in inflation.

Some 95 percent of all soccer ball exports in Sialkot were child labor–free, according to a report published in 2003 by the International Monitoring Association for Child Labor. Interviews with Sialkot stitchers during 2008 and 2009 revealed, however, that the reason for the decline in child labor was not necessarily a result of the establishment of stitching centers or of effective monitoring. The main reason was the ever-declining wage. In 2009 the inflation-adjusted wage for adult stitchers was as low as what children made in the 1990s. In 1997, a child stitcher could earn roughly half the minimum wage, but today a full-time adult home stitcher also earns only half the minimum wage. In other words, today children stitchers contribute such an insignificant amount that parents do not see a future for their children as laborers in a declining industry.

How do suppliers in China compete in the hand-stitched soccer ball market, and how do they lower labor costs for machine-stitched balls? This leads us into the realm of prison labor.

While evidence of child labor in soccer ball production in China is scarce,

51. Pakistan Institute of Labour Education and Research 2009, 9, 29.
52. Khan, Munir, and Willmott 2007, 1057.
there is another form of labor that is considered by the international community as a violation of human rights: forced labor. It is well known that China has established factories inside its prisons (though as far as we know, ours is the first article to disclose prison labor in the soccer ball industry). Prison labor in China is widely discussed in China’s own criminology and public security journals. The Chinese authors see prison labor as a regular type of labor, though some authors argue for improvement of labor standards inside prisons. The Laogai Research Foundation in the United States has also collected a vast amount of information on Chinese prison labor. Since the mid 1980s many Chinese prisons have been instructed to be self-financing, which effectively means that prisoners are often production workers. The U.S. government in particular has been very critical of this and has imposed sanctions against the import of Chinese prison-made products. In response, the Chinese government signed a memorandum of understanding (MOU) with the United States on 7 August 1992, agreeing to prohibit the export of products made by prison labor. Nevertheless, the subcontracting system allows for leakage from ordinary factories to prison factories.

As private prisons and inmate populations have expanded in the United States in recent decades, putting inmates to work for commercial corporations has become a normal practice. Prisoners are paid next to nothing, with examples ranging from $0.13 to $0.32 an hour, and $0.12 to $1.15 in federal prisons. (See Thompson 2012.) This development may explain why U.S. media criticisms of prison labor in China have declined in recent years.

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In this photo, taken 12 January 2010, a prisoner in the Ohio Reformatory for Women (Marysville, Ohio) works on an American flag. (Credit: AP Photo/The Dayton Daily News, Jim Noelker)

54. See, for example, Chan, Zhu, and Fox 1994; Seymour 2006; Fu 2005.
55. For more information on the MOU, visit www.jstor.org/pss/20693752 (accessed 10 July 2012).
56. Recently prison labor in China has not been much criticized by the U.S. media, perhaps because Americans no longer have the moral authority to point a finger at China. As private prisons and inmate populations have expanded in the United States in recent decades, putting inmates to work for commercial corporations has become a normal practice. Prisoners are
While conducting field research in several rural counties in northern Jiangsu and Jiangxi provinces, we discovered through chance encounters and sightings that prison labor was involved in the production of soccer balls for export. The information initially cropped up from a variety of sources: one of us saw a truck with the word “Police” and the name of a prison on it as people loaded the truck with soccer-ball panels at a sporting goods factory; five factory owners who were suppliers told us they could provide balls at lower prices through prison labor; and information also came from a subcontractor for factories, a human resources manager of a sizeable factory, two taxi drivers who said they had delivered soccer ball materials to prisons, some former home-based stitchers in a “football village” who complained that the competition of prison labor was too fierce, and also the internet, where some prison factories advertise that they take orders.\footnote{Two kinds of websites carry such information: one is the list of soccer ball manufacturers in e-commerce websites and the other is about prison factories, from websites of national and local prisons.}

This 61-year-old woman in a football village in a rural area of northern Jiangsu Province, China, has been stitching soccer balls at home for more than twenty years. In 2010 she earned RMB 4 (about USD$0.60) per piece and could stitch at most four balls per day. She expressed concern about the lack of production orders because of the competition of prison labor. (Credit: Hong Xue, 1 April 2010)

Prison labor is disciplined, cheap, and reliable. In recent years, after home paid next to nothing, with examples ranging from $0.13 to $0.32 an hour, and $0.12 to $1.15 in federal prisons. Thompson 2012.
workers abandoned hand stitching, the cost of prison labor has risen from four to six renminbi per ball. Many firms preferred to outsource orders to prisons rather than to home workers because the former could take large volumes and were more likely to deliver on time. A supplier told us that in recent years he has shifted his use of prison labor from hand-stitched balls to machine-stitched balls.  

Sometimes factories even set up “subsidiaries” inside prisons. Several soccer ball factory managers who do business with prisons told us that they send members of their staff to train prison workers and conduct quality control. The shop floor, they said, was no different from ordinary factories. Prison workers are excluded from labor law protection regarding compensation and length of work hours. They are given “bonuses” based on their work performance each month rather than wages. The amount varies from prison to prison. For instance, in 2007 in a prison factory in Anhui Province prisoners could get RMB60 to 200 (US$8.80 to $29.40) per month when business was good. Work hours can be long. In one study of a reeducation camp, the work hours spanned seven days a week totaling 76.5 hours, equivalent to working eleven hours a day for all seven days. However, this was not necessarily longer than in some labor-intensive factories in Guangdong Province.

It should be borne in mind, though, that as yet, prison-made soccer balls constitute only a small percentage of exported hand-stitched soccer balls from China and an extremely small percentage of the machine-stitched balls.

Conclusion

Since the mid 1990s, the global value chain literature has offered an important framework for analyzing global production chains, and it has shown how leading brands control other stakeholders in the value chain. The paradigm is weak, however, in explaining the relationship between global value chain governance and the extraction of value down the chain. The global value chain analysis focuses on the lead firms’ activities and perspective at the top of chain and ignores the voices of other stakeholders, particularly suppliers and workers in developing countries. The emphasis has been on compliance. In this comparative study we have examined and questioned three aspects of the governance of global production: the role of the state as an actor external to the chain; the question of value for whom when examining the distribution of income; and leading firms’ use of CSR monitoring as a façade to avert criticism. Crucially, the value chain literature largely avoids focusing on the fundamental reality that capital seeks ever
lower production costs through global production and outsourcing networks.

We emphasize that both the Chinese and Pakistani governments took advantage of the availability of cheap labor in their countries when they engaged the world economic system in the 1970s and 1980s. However, they embarked on different economic development strategies in the face of global competition. The Chinese state encourages economies of scale, technological upgrading, mechanization, and automation, all of which helps to enhance competitiveness. As a result, China’s soccer ball production now outpaces that of Pakistan. Pakistan has adopted an opposite strategy of atomizing production and informalizing labor into minute home-based production units. This strategy is based on the belief that racing to the bottom in wages would sustain its low-cost advantage and would continue to attract foreign production orders. This has proved to be a counterproductive strategy for Pakistan, which has not only sacrificed the labor rights of its own people, but in the end also lost its global market share of the soccer ball industry to China. The plight in Sialkot, Pakistan, the city that until recently dominated the world’s production of soccer balls, is aggravated by the fact that hand-stitched soccer balls no longer occupy the commanding heights of high-quality production, and production is in rapid decline. No matter how low the wages may be, hand-stitching cannot compete with machines due to hand manufacture’s inefficiency and backwardness in technology, compounded by the higher quality of thermo-molded balls.

The legal framework is one of the most important factors determining a country’s industrial relations system and working conditions. Global capital normally takes advantage of loopholes in a country’s legal system to squeeze labor costs in supplier factories. In Pakistan close to three-quarters of the workers are categorized as informal and excluded from legal protection. In China, anyone with an employment relationship with an employer is theoretically protected. Lack of legal enforcement in both countries is a big problem, resulting in underpayment of wages, excessive overtime, and absence of collective bargaining. However, Chinese workers at least can try to resort to legal weapons to claim their rights. On the other hand, the Chinese state does not normally proactively exercise its authority to protect the legal interests of workers. Moreover, it allows suppliers to maneuver to obtain cheaper labor—prison labor.

We have explored the question of “value for whom” by investigating whether workers benefit from technological upgrading and from wealth distribution within the global production chain. Whereas the global value chain thesis emphasizes the profit returns to lead firms, and affirms that upgrading is quite beneficial, when observed from the bottom upgrading often imposed greater work pressure and intensification of controls on workers.

Moreover, the global value chain thesis ignores the fact that the implementation of CSR practices has not changed the redistributive structure. In some respects, as has been seen, the situation regarding these practices has wors-

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64. One source puts the Pakistan informal workforce at 72.6 percent of the nation’s workforce. Pakistan Institute of Labour Education and Research 2009, 13.
65. Foresman 2012.
ened, as seen in dramatic fashion in the declining wages of soccer ball stitchers in Pakistan. Moreover, as supplier firms are forced to compete in an environment in which they are pressed to accept lower prices for their products, while shouldering the risk of market fluctuations emanating from their global buyers, they sometimes adopt subcontracting in order to reduce costs and enhance flexibility. Be it child labor in Pakistan or prison labor in China, in the soccer ball industry the problem is rooted in a subcontracting system that promotes low wages for stitching workers. CSR only focuses the world’s attention on the formalistic practice of social monitoring, but overlooks the core issue of workers’ incomes. Thus, CSR fails to deliver a living wage to workers in the global production chain, as observed in the plight of the families of Pakistani soccer ball workers. The global value chain paradigm is a hegemonic discourse that has helped shift responsibility onto local manufacturers, in the absence of wealth redistribution agendas. The meaning of “value” is “value” gained from the vantage point of the lead firms, whose stock value increases year after year, while the workers scramble for the leftover crumbs. Under pressure to make a profit, suppliers try to share as little as possible with the workers. Chinese workers in recent years have increasingly resorted to strikes and other industrial action, whereas home workers in Pakistan do not have the wherewithal to organize themselves. Notably, the disputes in China have been between labor and suppliers, not a united front of the two versus the lead firms.

But recently an interesting new development has emerged that may put current global chain governance to the test. After a spate of bad publicity for the giant Foxconn electronics manufacturer regarding mistreatment of Chinese workers, which also implicated Apple, the lead firm, the two have reached a deal to share the cost of improving labor conditions. Power relations between the two have shifted slightly, in that Foxconn, now the biggest employer of industrial workers in the world, can begin to make demands on Apple. In the soccer ball industry, such a scenario is unlikely to occur in the foreseeable future.

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