Manufacturing Paradoxes:

Foreign Ownership, Governance and Value Chains in
China’s Light Industries

Abstract
Utilizing Chinese industrial data and detailed transactional trade data, this paper finds two paradoxes. First, the distribution of FDI across value chains in light industries is the opposite of many extant explanations. Second, China’s dominance as an exporter is belied by the weaknesses of its domestic firms within the governance of value chains, with important implications for firm upgrading. By analyzing millions of US Customs Bureau trade transactions, the paradoxes are resolved by examining intermediary contractors in East Asian value chains. Even thirty years after reforms began and in the technologically simplest industries, Chinese firms continue to struggle to break through substantial ‘contractual’ barriers to entry.

Acknowledgements:
I thank the participants from the 2012 annual meeting of the Society for the Advancement of Socio-Economics for their feedback, as well as very insightful responses from three anonymous reviewers. Kiren Chaudhry, Tom Gold, Kevin O’Brien, T.J. Pempel and Steve Vogel have done much to guide this research, and I thank Justin Bogardus at Union College for able research assistance. For financial support, I am grateful to the Chiang Ching-kuo Foundation, Fulbright-IIE, the Harvard-Yenching Institute and [my university].
1. INTRODUCTION

There is a fairly straightforward narrative about China’s recent industrialization and export-oriented development. First, it is widely known that over the past three decades and particularly since WTO accession in 2001, China has transformed into a manufacturing juggernaut, dominating the import markets of many advanced countries and sparking protectionist backlashes. Although there is sharp debate over China’s capabilities in high-tech industries (Breznitz & Murphree, 2011; Steinfeld, 2010), its manufacturing and export prowess still is nowhere more evident than in light, consumer goods industries – something easily verified by trade statistics or a trip to the shopping mall. In 2011, China captured over 70% of total US imports in products like handbags, luggage, toys, footwear and wood products and over 50% in items like furniture, tableware and glassware (UN Comtrade).¹

Second, the logic behind China’s dominance in consumer goods industries is also uncontroversial. They are easy to produce, require only standardized, low-tech machinery, and are overwhelmingly reliant on a large, cheap and disciplined labor force, trained in basic manufacturing skills. While many countries remain incapable of forging such a workforce, once China’s disciplined labor force was combined with efficient infrastructure and trade-assisting tariff and currency policies, it came to dominate export-oriented light industries, employing millions of Chinese workers.

Third, unlike in technologically sophisticated industries like automobiles or electronics in which foreign firms hold a dominant position in China, light industries
ought to be the domain of domestic entrepreneurs. Given the low entry barriers endemic to light industries, it is extremely difficult for foreign firms to compete with native producers, which partly explains the critical role of light industries as an early foothold in the ladder of development.

In summary, then, the prevailing wisdom is that China has become an industrial world-beater in consumer goods industries, largely on account of its workforce, built-up infrastructure, trade policies, and driven forward by highly competitive domestic firms that retain home-country advantages in the technologically simplest light industries. These appear to be relatively incontrovertible statements backed up with both straightforward evidence and academic theories.

Surprisingly, they are mischaracterizations. The data in this paper show that light industry production and trade, especially in downstream sectors in China, are dominated by foreign firms and their advantage is not predominantly based on China’s workforce, since domestic firms are even more capable of exploiting the domestic labor force, evidenced by their lower average wages across industries.

These data highlight two, interconnected paradoxes. First, there is an ownership paradox, in that it raises questions about why, in comparison to other industries, foreign firms are more dominant in the technologically simplest light industries in which native Chinese entrepreneurs ought to be most competitive, especially after China’s thirty years of international integration. This paper applies extant explanations of FDI to the unusual patterns of foreign investments in China, including John Dunning’s programmatic ‘eclectic’ or OLI paradigm, which asks, *inter alia*, the
simple question ‘why do firms invest abroad?’ OLI stands for ‘ownership,’ ‘location,’ and ‘internalization’ which are the three critical factors in the decision-making of firms’ investments abroad, namely – ‘what advantage do they possess over rival firms,’ ‘why do they choose a particular location to invest,’ and ‘why do they internalize the function rather than contract for it.’ As the paper shows, many extant explanations of foreign direct investment (FDI) have difficulty accounting for China’s unusual up-downstream structure of foreign investments. Utilizing detailed industrial data and transactional trade data, the paper resolves the paradox by finding that in light industries in China, foreign firms are firmly entrenched and retain advantage within the international division of labor as “intermediary contractors” between China-located production and foreign buyers.

The data raise a second paradox, incorporating a cognate literature on global value chains (GVC) and the governance role of transnational buyers in their operations with foreign suppliers. Despite China’s clear dominance in the manufacture and export of light industry goods, this paper shows that Chinese domestic firms occupy a weak and passive position in the division of labor within light industry value chains, largely because of the continued prominence of East Asian intermediary contractors, which GVC scholarship as long argued occupy weak middlemen positions in global value chains.

On the one hand, scholars have pointed out the declining importance of manufacturing in development (Arrighi & Drangel, 1986; Arrighi, Silver & Brewer, 2003; Kaplinsky, 2005; Wood, 1997). Globally, these trends are evident in
cross-national, large-n studies which illustrate a disjuncture between convergence in industrialization, and a simultaneous divergence in manufacturing incomes and export prices between developed and developing economies. Common explanations for the declining importance of manufacturing point to the ‘commodification’ or ‘routinization’ of manufacturing knowledge and technology, inducing a precipitous fall in barriers to entry – problems particularly acute in light industries.

To counter these global forces, developing country firms must continually ‘upgrade’ their manufacturing capabilities to retain entry barriers. One large, interdisciplinary literature on GVC has gone far in theorizing the prospects of developing country supplier upgrading. GVC research focuses on the de-verticalization of large transnational corporations (TNC) or ‘lead’ firms which have increasingly concentrated on their core competencies that add the most value (like design, engineering, logistics and marketing), while off-shoring manufacturing functions abroad to countries like China. The value chains are then re-integrated through networks of trade, foreign investments and non-equity ties. Within these value chains, the prospects for firm upgrading is heavily conditioned by the lead firms and their modes of governance. Thus, in contrast to the ownership focus of literature on FDI, GVC research is most concerned with issues of inter-firm governance and the balance of power between lead TNCs and supplier firms, linking advanced and developing countries.

The data in this paper support the notion that manufacturing has commodified and lost much of its developmental potential. At the same time, it reveals that China’s
dominance as a manufacturing juggernaut in light industries is accompanied by weaknesses among its domestic manufacturers whose upgrading potential is hampered by intermediary contractors within the value chain. This is because intermediary firms, largely from the prior generation of East Asian NICs, persist in their dominant role as the direct suppliers to transnational buyers, which research has shown reduces the possibilities for industrial learning and upgrading in the value chain (UNCTAD, 2013). The persistence of intermediary contractors, however, runs contrary to GVC literature which has long predicted that intermediary firms would be eliminated in East Asian production networks.

This paper refines GVC literatures in two important ways. First, the transactional trade data used in this paper are able to systematically measure variation in the strength of different suppliers across industries and hence, the degree to which a gap exists between China’s dominance as a ‘country of production’ and its weakness as a ‘country of contracting.’ Unlike most trade data which aggregate trade between countries, transactional trade data consist of shipping data from bills of lading to record all waterborne transactions between companies that pass through US Customs. This paper culls through millions of US import transactions to examine how specific US corporations organize off-shoring production, which countries and companies they favor for contracting, and the nature of the hierarchical relationship they establish with different suppliers. The large gap between China as a location of ‘manufacturing’ and as a location for ‘contracting’ indicates that notwithstanding China’s manufacturing and export dominance, most native Chinese firms are
positioned in passive, dependent and weak roles within the global organization of industry.⁵

Second, the stability and endurance of East Asian firms as commercial intermediaries contradicts much GVC scholarship, which has long argued that intermediary firms conducting ‘triangular trade’ between East Asian producers and US retailers, occupy a weak and unstable position in the value chain, and were long predicted to be eliminated (Gereffi, 1996; Gereffi, 1999; Gereffi & Pan, 1994; Gereffi, Humphrey & Sturgeon, 2005; Schmitz & Knorringa, 2000). The transactional trade data suggest that contrary to expectations, commercial intermediaries occupy a very robust ‘link’ in the international division of labor, and are more widespread than prior research suggests, with important implications for the upgrading prospects of domestic manufacturers.

The paper’s insights are particularly applicable to regions of the world which have been most deeply integrated into TNC production networks. With its finely articulated regional division of labor and its proliferation of preferential trade agreements, East and Southeast Asia have been at the forefront of transnational production networks (Bernard & Ravenhill, 1995; Borrus, Ernst & Haggard, 2000; Hiratsuka & Uchida, 2010; Kawai & Wignaraja, 2011; Yeung, 2009) China serves as a critical case since it increasingly lays at the epicenter of manufacturing outsourcing and East Asian production networks (WTO & IDE-JETRO, 2011). The following two sections examine the anomalous data on FDI in China and evaluate extant explanations of FDI. The paper then turns to GVC theories on inter-firm governance
and finally utilizes transactional trade data to examine the position of East Asian commercial intermediaries in the China-US value chain.

2. FOREIGN DIRECT INVESTMENT ALONG CHINA’S VALUE CHAINS

This section closely examines detailed Chinese industrial data on the influx of FDI into China. It illustrates that the distribution of FDI across Chinese industries presents a paradox. Compared to technologically sophisticated and capital-intensive industries, foreign firms are most dominant in China’s technologically simplest industries. This raises questions about extant theories and explanations of FDI, issues addressed in the next section.

Compared to earlier industrializers and current large emerging economies, Chinese industrialization is distinctive in the degree to which it has relied on FDI and exports. By the 1990s, China was absorbing as much as one third of total FDI flows to all developing and transitional economies, causing China’s exports and imports to skyrocket from 25% to over 40% as a share of GDP between 1989 and 1994, and then to 65% after WTO accession, outpacing other large, emerging economies (Naughton, 2007, p. 377-78; UNCTAD). However, while much has been written on the determinants, effects and performance of FDI in China in the aggregate and its regional distribution within China (Fu, 2000; Huang, 2003; Wei, 1996; Wei & Liu, 1999; Wu, 1999), it is the pattern and concentration across different industries which provide crucial insights for this paper.

As discussed later, a necessary (though not sufficient) condition for foreign firms
investing abroad is that, all else being equal, they must possess an advantage over their domestic rivals – in Dunning’s paradigm, an ‘ownership’ advantage. This serves as a necessary competitive edge to counterbalance the many home country advantages that normally accrue to native firms and entrepreneurs.  

Of course, when it comes to advanced country firms investing in developing countries, there are no shortages of advantages: high technology, ability to pay higher wages, a more skilled workforce and managerial expertise, easier access to cheaper capital, larger economies of scale, an oligopolistic position, and so forth. Given these advantages, as a general rule, one would expect to find foreign firms more heavily concentrated in technologically advanced, capital-intensive industries where there are fewer and less competent domestic rivals. For instance, in much of the earlier scholarship on industrial deepening in Brazil, Mexico, India and East Asia, foreign firms were most dominant in industries like petrochemicals, machinery, electronics, basic metals, pharmaceuticals and transportation industries, leaving light industries, like textiles, footwear, furniture, and other consumer goods to domestic firms.

In China, however, just the opposite pattern of foreign investments exists. In 2004, the year of China’s first economic census, among manufacturing industries at the two-digit level of industrial classification, there is a large negative correlation (r = -0.64) between fixed assets per worker (a rough measure of capital and technology intensity), and foreign ownership as a share of total assets (State Statistical Bureau, 2005). In a reversal of expectations, six of the eight industries with the highest
foreign capital concentrations (over 45% foreign capital) are the typical light industries, including garments and apparel, leather, furniture, toys, sporting goods, and rubber and plastics goods industries.\(^{10}\) By contrast, seven of the eight industries with the lowest level of foreign interests (under 20% foreign ownership), are heavy, capital- and technology-intensive industries, including basic chemicals, petrochemicals, ferrous and non-ferrous metals, pharmaceuticals, and non-metal mineral products manufacturing.\(^{11}\) In the 1980s, the important role of foreign firms in the early developmental stages of China’s export-oriented light industries was well-known (Thoburn et al. 1990). However, a critical finding of this paper is that compared to other industries, foreign firms remain most dominant even today in these same industries, after over thirty years since China’s ‘opening up,’ and even through the dramatic changes of the 2000s, discussed later (Table 1).

[Table 1]

It might be argued that the two digit level is too unrefined because it mixes together light, heavy and high-tech industries within the same industrial category. However, the negative correlation remains \((r = -0.22)\), even after breaking China’s industrial data down into 608 three- and four-digit industries (Office of the State Council’s First Economic Census Leadership Group [OSC], 2006). The lower correlation is expected given the much smaller units of analysis, but the negative sign remains contrary to expectations.
One knee-jerk reaction is perhaps that foreign firms set up shop in China to access ‘cheap labor.’ While the ‘cheap labor’ argument may be an appropriate explanation in other debates, it provides no advantage to foreign firms over their domestic Chinese rivals, which in general are even more capable of exploiting cheap domestic unskilled laborers. In fact, there is strong evidence that Chinese domestic firms pay substantially lower wages, even in light industries. As mentioned, the heavy presence of foreign firms in light industries may have made sense in the 1980s when China was just beginning market reforms and lacked leading edge industrial capabilities. But by 2010, Chinese domestic firms have had over thirty years to gain competency in relatively simple manufacturing processes like garments or footwear – far beyond the decade it took for native firms in the four East Asian tigers to become light industry export powerhouses over the 1960s (Haggard, 1990). Why do Chinese firms appear so handicapped in the very simplest of manufacturing sectors, over such a long period of time?

Broad correlations pose a puzzle, but offer little explanatory leverage. A close examination within industrial sectors, however, reveals a particular distribution of foreign investments. In Table 2, I have listed all sub-industries for which there can be found distinct up- and downstream sectors – a value chain – at the four-digit level of Chinese industrial classification. The figures demonstrate that within most of these industrial sectors in both the mid-1990s and late 2000s, FDI has concentrated very heavily in the downstream sub-sectors. In nearly all industries in Table 2, the share of foreign assets gradually increases as one travels down the value chain. That is,
relatively low levels of foreign ownership are found in the upstream sectors, but their presence dramatically increases with the highest levels found in the most downstream or final goods sectors. More surprisingly, the basic pattern of foreign investments does not substantially change over the past decade and a half, during which time one might think Chinese firms would have become more competitive in simple light industries. Contrary to expectations, in some cases, foreign firms increased their market share between 1995 and 2010, such as in shoes, hats, down products, wood products, rubber goods and metal furniture.

[Table 2]

This persistence of foreign ownership over time is even more surprising given several dramatic domestic and international transformations that would normally foretell significant changes to foreign ownership in China. First, the basic structure of foreign ownership remains unaltered despite China’s accession to the WTO in 2001, which required changes in policy on the ‘national treatment’ of foreign firms, as well as the lowering of tariffs and greater market access (Lardy, 2002). Second, this fifteen year period also witnessed radical changes in ownership of state-owned and collectively-owned firms, which were either privatized, forced into bankruptcy or securitized and placed under state corporations (zhuada, fangxiao), generating under- and unemployment for tens of millions of state workers (xia gang) (Hurst, 2009; Yusuf, Nabeshima & Perkins, 2006). During this same period, political
discrimination against privately-owned domestic firms was mitigated as the
Communist Party valorized private entrepreneurship (Dickson, 2003; Tsai, 2007).
One might expect that these ownership transformations in China would shift
opportunities for foreign and domestic firms, an issue addressed by China scholars
(discussed below). Finally, major changes in international regimes, such as the
ending of the Multi-Fiber Agreement (MFA) in garments and textiles between 1999
and 2005, did not alter the basic pattern of ownership. While it is universally agreed
that China gained the most from the ending of the MFA in terms of aggregate trade, it
did not alter the pattern of foreign manufacturing in China in ways predicted.  

3. EXPLAINING FOREIGN OWNERSHIP IN CHINA

How to explain this pattern in foreign ownership in China and its persistence over
time? At first blush, the data contradict expectations, particularly when comparing
light industries to other industries. If anywhere, domestic firms should, ceteris
paribus, be able to outcompete foreign firms in light industries. Domestic firms
generally possess home country advantages, including cultural and language
advantages, closer (even affective) ties with government and other businesses, a
superior understanding of domestic policy, laws and norms, deeper and broader
networks of contacts, better capacity to gather information and anticipate future
changes, and so forth. To overcome their inherent disadvantages, foreign firms must
be able to exploit their own advantages. As mentioned, in Dunning’s OLI model,
these ‘ownership’ advantages include better technology, R&D, access to cheaper
capital (both within and external to the host country), product branding and marketing, and skills and knowledge that are hard to transfer across firms.

It was already highlighted that light industries (as a group) are the least likely to have a preponderance of FDI. However, many of these explanations also do not lend themselves well to the distinct upstream-downstream distribution of foreign ownership within industries. For instance, it is hard to explain why many of these advantages would serve foreign firms so well only in technologically simple downstream sectors like toys, sportswear, garments, leather goods, furniture, and kitchenware, but provide few advantages to foreign firms in the up- and midstream sectors of these same industries, such as textiles, rubber goods, leather tanning, wood processing and primary plastics. Even within light industries, one might expect precisely the opposite pattern of foreign ownership.

The structure of foreign investments in China also cannot be explained by activist government policy in attracting foreign investments – important elements of ‘location’ advantages in Dunning’s eclectic model. It is well known that Beijing created an uneven policy playing field favoring foreign firms in order to attract investment to China. Foreign firms were granted privileged access to resources and favorable regulations, including generous tax holidays, profit remittance, access to foreign exchange, subsidized utilities and land, and favorable labor laws, especially for firms located within China’s diverse array of export processing zones (EPZ) (Gallagher, 2005; Howell, 1993; Huang, 2003; Shirk, 1994). While EPZs may help explain the aggregate entry of foreign investments, once again, one would be hard pressed to
explain the up- and downstream pattern of foreign investments through these policies alone.

However, it is also well-known that China’s foreign trade ministry, currently called the Ministry of Commerce (MoC), served as a gate keeper to the entry of foreign firms. For instance, every year, it issued the Catalogue for the Guidance of Foreign Investment Industries – very detailed lists of industries in which foreign investments were categorized as ‘encouraged,’ ‘restricted’ or ‘prohibited.’ The Guidances are the best overall indicator of the warmth of Beijing’s welcome to different industries over time. So, while the EPZs and other incentives may help explain the aggregate quantity of foreign capital in Chinese manufacturing, the MoC’s positive and negative lists of industries may explain the peculiar pattern of foreign industrial investments in China.

However, close examination of the Guidances between 1995 and 2007 demonstrates that light and consumer goods industries, whether in the up- or downstream, were neither encouraged nor restricted. As a general rule, the Chinese government remained neutral towards light industry foreign investments. The only exceptions were the three most upstream sectors of the textile industries: cotton spinning, wool spinning and raw silk reeling, in which foreign capital was classified as ‘restricted’ until WTO regulations required their re-classification. In none of the Guidances since 1995, however, are downstream labor-intensive industries encouraged. Likewise, besides the three spinning sectors, no other light industry upstream sectors, such as the processing of rubber, timber, glass, plastics, and
so forth, were restricted or prohibited. Furthermore, the next links after textile spinning, such as weaving, dyeing, and apparel were left unregulated, neither encouraged nor discouraged. Thus, there appears to be no systematic policy bias, positive or negative, against these industries to explain the unusual pattern of foreign investments. In fact, as a general rule, the *Guidances* are heavily weighted towards ‘encouraging’ foreign investments, and among encouraged industries, they sought to promote higher technology sectors. The best that can be said about low-tech, labor-intensive industries is that they were ignored.

Yet a third perspective on foreign firm advantages in China turns these explanations on their head. Instead of examining the firm-level ownership advantages of foreign firms or China’s many FDI-attracting government policies, Yasheng Huang’s empirically rich book on Chinese FDI (2003) asks ‘why Chinese domestic firms are so weak.’ In contrast to my explanation focused on the international economy, his argument faults Chinese domestic politics: China’s *private* firms suffer policy discrimination at the bottom of a political hierarchy of firms, in which state-owned enterprises (SOEs) are systematically favored. Most importantly, private firms are handicapped from accessing capital and foreign exchange because of the discrimination of China’s state-run banks that crowd out the private sector by favoring SOEs. In Huang’s argument, this handicapping of domestic private firms is not only itself an advantage to foreign firms, but it also pushes cash-strapped domestic firms to sell themselves at a bargain to foreign firms through joint ventures (JV). Thus, the paradox of foreign firms dominating light industries is solved because they enter a
void created between SOE inefficiencies and policy discrimination against otherwise efficient private firms.

However, because Huang’s data remains at the two-digit level of industrial classification, he is unable to observe the pattern of ownership across the value chain from the up- to downstream. As illustrated, this more disaggregated view reveals that Chinese firms have been crowded out of only some light industries, while they remain clearly dominant in others. As such, his dual explanation of SOE inefficiencies and private sector discrimination ought to be true across all light industries, not just in downstream light industries. More importantly, his explanation would presumably predict a dramatic change from the late 1990s, when the Communist Party reversed course and began supporting the private sector more, including the Party’s avid valorization of private entrepreneurs as welcomed Party members. However, my data in Table 2 indicate there has been no substantive change in these industries over the past decade.

A similar up-downstream logic contradicts other contending explanations. For instance, some domestic Chinese firms have tried to circumvent domestic regulations by first exporting investment capital to Hong Kong, setting up a subsidiary and then reinvesting in the Mainland posing as a ‘foreign’ company, a phenomenon called ‘round-tripping.’ Again, however, there is no apparent reason why Chinese firms would pursue this costly and illegal strategy only in downstream industries but avoid it in upstream ones, especially since, as we saw, Chinese FDI policy did not systematically discriminate between the up- and downstream in light industries.
Finally, apart from firm-level or policy advantages, the literature on FDI, and the third component of Dunning’s OLI model, also seeks explanation for why foreign firms choose to *internalize* functions by investing abroad, rather than conduct business through more arm’s-length forms of contractual alliances or simple trade. For instance, in light industries in China, foreign firms often contracted with domestic firms by providing loans, raw materials or machinery in exchange for specified output, all without any direct equity investments. Huang (2003) aptly considers the issue of ‘internalization’ in the conundrum of why in China, JV ownership ties were favored over arms-length contracting with domestic firms. He argues that Chinese private firms sought political protection by selling themselves to foreign firms because it afforded them legal protection and benefits under the umbrage of China’s foreign ownership laws. However, this does not explain why China’s *non-private* firms were not avid contractors with foreign firms in light industries; nor does it explain why after the government’s valorization of private capital, contractual alliances have remained in the shadows of equity investments as the preferred method of foreign firm engagement in China.

By contrast, clues to an alternative explanation are supported by firm-level survey data that compares contractual alliances to FDI among Hong Kong investors, who have long held the largest share of Chinese FDI. It suggests that the *commercial* ties between Hong Kong firms and international buyers explain the unusual patterns of FDI in China. In a 1991 comprehensive survey of the foreign investment behavior of nearly 1,600 member firms of the Federation of Hong Kong Industries, firms were
asked which type of investment they utilized in the Pearl River Delta – at the time, the location of most foreign direct investment in China (Federation of Hong Kong Industries, 1992). Contrary to Huang’s data, Hong Kong firms overwhelmingly invested as wholly-owned foreign enterprises (43.2%), with equity JVs (22.6%) and contractual alliances (17.2%) as distant second choices. Even during this pre-WTO era when China’s government had greater leverage to encourage JVs, Hong Kong firms clearly preferred full ownership and operational independence.  

Furthermore, the industries in which contractual alliances were the most extensive form of foreign investment included paper and printing (36.8%), electrical and optical products (25.7%), and moulds and dies (22.6%). These are more capital goods industries, and not particularly consumer-oriented. By contrast, the industries with the highest levels of wholly foreign owned enterprises included watches and clocks (83.3%), jewelry (62.5%), wearing apparel (62.2%), plastic, rubber and leather goods (45.9%), metal products and machinery (45.8%) and toys (41.5%). Apart from metals and machinery, these are the most consumer-oriented industries surveyed, in which product cycles are extremely rapid, consumer demand is highly unstable, and as we will see below, the relationship between Hong Kong firms and their international buyers are very tight. According to the surveyed firms, full ownership is favored over other forms of investment because “it allows the investor to have more autonomy over management and hence more flexibility in responding to market changes” (Federation of Hong Kong Industries, 1992, p. 14). In highly volatile consumer goods markets, full ownership eliminates time-consuming consultations
with their domestic JV partners and regularly having to ‘translate’ their buyers’ demands to third-party Chinese contractors.

Overall then, the unusual pattern of foreign ownership in China, its repetition across many industries, its duration over time, and its persistence through dramatic international and domestic changes, all suggest that something deep and ‘structural’ about global production may explain the pattern of foreign capital investments in China.

4. GOVERNANCE, UPGRADING AND INTERMEDIARY CONTRACTORS

Apart from the ownership paradox, there remains a second paradox. On the one hand, China is clearly a juggernaut in the manufacture and export of light industry goods. However, the data below on ‘contractual’ relations between TNC buyers and suppliers indicate that Chinese firms occupy weak and passive positions within light industry value chains and that the prospects for ‘upgrading’ among domestic Chinese firms remains severely hampered. The data suggest that this is due to the persistent power of intermediary contractors, which hold the majority of purchase contracts with transnational buyers. However, this runs contrary to GVC literatures which have long predicted that intermediary contractors would be cut out of the value chain, as transnational buyers created direct links with domestic firms (Gereffi, 1996, p. 98; Gereffi, 1999, p. 61; Gereffi, Humphrey & Sturgeon, 2005, p. 92; Gereffi & Pan, 1994, p. 144; Schmitz & Knorringa, 2000, p. 199).22

As mentioned, over the past decades, scholars have demonstrated a general
decline in the developmental potential of manufacturing. This trend has been particularly pronounced in light industries in which the forces of standardization and commodification are most widespread. In order to combat the precipitous decline in entry barriers, firms must continually ‘upgrade’ to retain barriers to entry.

The literature on GVCs is one body of scholarship that has gone far in theorizing the various dimensions, possibilities and factors in firm upgrading. There are many pathways for firm upgrading, including ‘product’ upgrading (producing more sophisticated goods), ‘process’ upgrading (more efficiently transforming inputs into outputs), ‘functional’ upgrading (mastering new functions along the value chain for buyers), and ‘inter-sectoral’ upgrading (applying knowledge to enter into new but related industries).23

A key insight of the literature is that the particular type of upgrading open to developing country suppliers is heavily conditioned by the lead TNC in a value chain. This can vary according to the industry, the particular dyadic ‘link’ within a single value chain, and even according to each lead firm’s business strategy and culture. In some light industries, such as footwear and furniture, authors have found that lead firms spend substantial resources in supporting their suppliers’ product and process upgrading, because this contributes to the quality and costs of the products they source (Humphrey & Schmitz 2002, Ivarsson & Alvstam, 2010; Schmitz, 2006). By contrast, TNCs often also discourage functional upgrading (especially in branding and marketing, but even in design and logistics), if such upgrading is perceived as threatening the core competencies of lead firms (Humphrey & Schmitz, 2002;
Schmitz, 2006). By contrast, in studies of apparel manufacturing, the opportunity for functional upgrading from simple garment assembly to ‘full package’ manufacturing (which includes sourcing inputs, logistics, packaging, etc.) was nurtured by lead firms and enthusiastically grasped by East Asian and Mexican manufacturers (Bair & Gereffi, 2001; Gereffi, 1999).

Regardless of variations between industries, however, an important condition for the potential of upgrading is direct contact with transnational buyers. According to recent research, “a GVC that involves too many intermediaries limits the potential for local firms to learn from lead firms,” thus creating barriers to the upgrading potential of developing country suppliers (UNCTAD, 2013, p. 167). This is because compared to intermediary contractors, “knowledge transfer effects tend to be more positive when TNCs act directly as lead firms within the value chain,” (ibid., p. 160), a finding which appears to be true across heavy and light industries alike (Ivarsson & Alvstam 2005, 2010; Saliola & Zanfei, 2009). For instance, in many cases, employees of large buyers, such as Nike or IKEA, are intensely engaged on the shopfloor production lines of their suppliers (Appelbaum, 2008; Ivarsson & Alvstam, 2010). In addition, given that intermediaries conduct much of the service functions that are required to link producers and buyers, they block certain areas of functional upgrading, long after the buyers themselves had abandoned these links in the value chain.

However, the GVC literature has long argued that intermediary contractors\textsuperscript{24} constituted weak and unstable ‘links’ in the value chain because “foreign buyers will
be inclined to cut out the...middlemen and deal directly with their major overseas
producers” (Gereffi & Pan, 1994, p. 144). The rationale for these predictions often
focused on the “greater control and savings” which direct sourcing affords to
transnational buyers (Schmitz & Knorringa, 2000, p. 199, see also Gereffi, 1999, p. 61;
Gereffi & Pan, 1994, p. 144); however, in apparel, the ending of the MFA between
1999 and 2005, and the concentration of apparel in fewer countries was also presumed
to undercut the primary function of intermediaries (Gereffi, Humphrey & Sturgeon,
2005, p. 92).

The evidence below, however, suggests that despite China’s clear dominance in
light industry manufacturing, the position of Chinese firms is weak and their
prospects for upgrading is hampered by intermediary contractors who control the
purchase contracts with transnational buyers, and whose power and persistence has
not waned, as GVC literatures predict. Through systematic measurement of trade
transactions, the evidence highlights that intermediary contracting as a function or
‘link’ in the value chain is much more widespread and stable than commonly thought
and it creates new, formidable barriers to entry for developing country manufacturers.
This is because even with comparable capabilities in production and know-how, new
entrants are at a significant disadvantage to long-standing, ‘entrusted’ suppliers who
typically hail from countries with a long history of export-orientation and supplying
multinational buyers – most importantly the first generation of East Asian NICs.
Although China has become the dominant location of production across many
consumer goods, Chinese firms control only a very small share of the purchase
contracts in many of these industries. It is the entry barriers surrounding gaining control of contracts, particularly stable and regular contracting, which Chinese and other industrializing country firms have trouble surmounting.

East Asian firms which re-located to China were already well-integrated into the operations of global retailers and merchandisers. These firms control the purchase contract and thus in conjunction with their customers – the transnational buyers – make fundamental decisions of what gets produced, how and where, even if the contractors produce little or nothing at all. Furthermore, the power of contractors to shift production away from China to other countries is an option more easily exercised by foreign contractors with long histories of internationalization, than otherwise would be the case if native Chinese firms were directly contracted with. Thus, whereas the label ‘footloose’ was originally applied to the behavior of transnational buyers and their erratic purchasing from different firms and countries, the evidence below suggests that intermediary contractors now pose this threat (see also UNCTAD, 2013, p. 158). Using inter-firm transactional data, rather than the more commonly used inter-country trade data, one can map out in detail the organizational structure of trade between China and the US through the lens of major US corporations.

These data also reveal the extent to which international contracting in consumer goods industries is organized hierarchically, in which ‘entrusted’ suppliers are awarded large, consistent and stable contracts, and ‘footloose’ suppliers are forced to fight for the remaining erratic contracts. In entrusted supplier-buyer relationships, a
greater degree of commercial integration creates bonds between the buyer and entrusted suppliers, such that this handful of privileged suppliers can somewhat escape the price-sensitive competition of global consumer goods industries, which the remaining ‘footloose’ contractors must endure. Thus, while production competency is a bare minimum in all contracting, what matters most in entrusted contracting is a history and reputation of reliability in deliveries, a proven record in the conduct and timing of logistics, and most importantly, intimate working relationships between suppliers and buyers. This includes discretion in maintaining trade, design and patent secrets, access to sensitive point-of-sales data, and trust in collaboration to achieve greater diversification and speed to market.

Much prior research recognized some version of ‘entrusted’ contracting in many technology, knowledge and capital-intensive industries where ‘integral’ production relations are often critical (Borrus, Ernst & Haggard, 2000; Herrigel & Wittke, 2005; Gereffi, Humphrey & Sturgeon, 2005; Yusuf, Altaf & Nabeshima, 2004). However, it is less recognized in light industries, which are typically seen as ‘footloose,’ since it is assumed that global trade operates like a perfect market with thousands of capable suppliers worldwide. One exception is garments, which were seen as operating according to tight-knit ‘relational’ buyer-supplier ties; however, this was often explained as an artifact of the MFA quota system and was expected to end with the phase out of the MFA (Gereffi, Humphrey & Sturgeon, 2005, p. 92) – a prediction which my data questions.

That said, Richard Appelbaum (2008 and 2009) has identified instances of the
deepening integration of commercial ties in light industries. For instance, he shows that Hong Kong-based Luen Thai Holdings built a ‘supply chain city’ in Dongguan City where designers, manufacturers and retailers from independent companies lacking cross-equity ownership co-locate to perform all of the functions in making apparel for export; Yue Yuen/Pou Chen Holding’s massive footwear factories in East Asia are regularly visited Nike personnel; and the TAL Group, which has direct access into J.C. Penny’s point-of-sales data, can independently order, manufacture, and even sometimes design and test market new items for J.C. Penny, without any direct intervention from the American retailer itself. Although international trade in simple consumer goods may appear to be a classic market of innumerable and interchangeable sellers, these sorts of commercial relationships are hardly indicative of footloose contracting.

5. MANUFACTURING VERSUS INTERNATIONAL CONTRACTING

Besides case studies of particular firms, is there more systematic evidence of a hierarchy of suppliers in which intermediary commercial ties serve as formidable barriers to entry in light industries? Or, could it be that light industry production and technologies themselves have advanced to such an extent over time that industrial prowess still remains the differentiating factor between Chinese and foreign firms? The data below supports Appelbaum’s insights, but also moves beyond case studies by systematically measuring the degree and variation to which a hierarchy exists in different light industries and the barriers to entry this imposes for developing country
firms.

It was previously shown that foreign firms in general are overwhelmingly concentrated in China’s downstream sectors. However, knowing the country origins of the foreign firms that dominate in China’s downstream industries offers additional leverage over these puzzles. From a manufacturing perspective, if technology, managerial expertise and know-how have substantially advanced, even in light industries, then perhaps Chinese firms have a much more daunting manufacturing ladder to climb. However, it is much harder to argue that technological and managerial disparities in light industries also differentiate foreign firms hailing from different advanced countries. Presumably, advanced country foreign firms operate on a more even playing field in terms of both production and marketing. Thus, one would normally expect that given the relatively lower technological entry barriers, a wide range of firms from many advanced (and advancing) countries should be found intensely competing in China’s light industry sectors. Once more, however, the data do not support expectations.

After three major waves of foreign investments, by the 2000s, China was awash in FDI from a wide range of countries. However, in spite of this broad diversification in foreign capital, there remains a clear path dependence across industries in terms of the country origins of foreign investments. In light industries, in which the greatest number of firms from many different countries ought to be eager and able to enter the China market, overseas Chinese capital from Hong Kong and Taiwan remains clearly dominant, even thirty years after China’s opening up. While scholars have closely
studied the role of overseas Chinese capital in China’s high-tech industries like electronics (Naughton, 1997; Borrus, Ernst & Haggard, 2000), Hong Kong and Taiwanese firms continue to occupy a more dominant position in light industries in China – the very same light industries in which they rose to industrial prominence starting from the 1960s. This was well-recognized in the first decade or so when China had first opened to international trade and was inexperienced in international production and trade (Ash & Kueh, 1993; Berger & Lester, 1997; Hsing, 1998; Thoburn, et al, 1990). However, its endurance to today is harder to justify.

In aggregate, as a share of total industrial assets in China, overseas Chinese own only 8.9% of total assets in 2004, which is substantially less than the investments from all other non-overseas Chinese foreign investors (14.9%) (OSC, 2006). However, overseas Chinese capital flows are not distributed equally across industries. Table 3 lists all of the industries at the four-digit level in which overseas Chinese are the most dominant, owning at least 35% of total assets. It is clear that apart from a few industries like circuit board printing, overseas Chinese are most concentrated and dominant in consumer goods industries. Their share of assets in these industries is between four and seven times higher than their aggregate share of assets (8.9%). More intriguing is that compared to foreign firms from other countries, overseas Chinese clearly dominate in most of these 41 industries, with a share well over twice as large as other foreign investors and in some industries many times more.²⁵ Again, only in circuit board printing do non-overseas Chinese foreign investments surpass overseas Chinese investments (a ratio of 0.75). From a manufacturing standpoint, it
is hard to explain why overseas Chinese would be so much more dominant in light industries compared to other equally capable foreign firms. A more likely explanation is the enduring power of their long-standing commercial ties with international buyers – ties that were forged during their prior era of export-oriented industrialization and, contrary to GVC scholarship, are very strong and enduring over time. The evidence suggests that besides technology and production, native Chinese firms need to climb over additional, perhaps higher, *contractual* barriers to entry.

**[Table 3]**

Furthermore, it does not appear that overseas Chinese firms in China sustain their advantage through expenditures in research, development or high-tech upgrading. In fact, across all ten major light industries at the two-digit level, domestic Chinese firms devote more resources to research and development as a share of their revenue than overseas Chinese firms; the same holds true in comparison to non-overseas Chinese foreign firms, with the exception of textiles and furniture (OSC, 2006). In some industries, such as apparel, rubber products and crafts and miscellany, domestic Chinese firms spend substantially more. Once again, across a wide swath of industries, foreign firms’ competitive advantage does not reside in their technological edge.

6. **MEASURING INTERNATIONAL CONTRACTING: DATA AND ANALYSIS**
Thus far, this paper has relied on disaggregated industry-level data to illustrate the unusual pattern of Chinese FDI and the dominance of overseas Chinese in China’s consumer goods industries. These data are highly suggestive but do not provide direct evidence of the importance of contracting and commercial ties in the construction of a global division of labor. For this, I combed through millions of lines of transactional-level trade data. Unlike most trade data which aggregates trade between countries classified into product categories, transactional trade data utilizes shipping data from bills of lading to record every waterborne transaction between companies that passes through US Customs. Through it, one can examine how specific US corporations organize trade, which countries and companies they favor for contracting, and the nature of the relationship they establish with different suppliers.

These factors are examined below in three representative consumer goods industries – footwear, toys and kitchenware – which were selected based on two criteria. First, I selected from consumer goods industries in which China is most dominant, capturing over 70% of total US imports in 2011. Whatever combination of factors that makes countries competitive in certain industries, China unarguably possesses them in these industries. At the four-digit level of the Harmonized System of trade classification, there are 94 identifiable consumer goods sub-categories, and among these, there were twelve in which China captured 70% of the U.S. import market.26

Second, my analysis also required industries with a sufficiently large number of
US buyers, overseas suppliers and monthly transactions between buyers and suppliers. Due to data limitations, there are several reasons why relatively smaller industries fail to reach these ‘large number’ requirements.27 Given the data constraints, among the consumer goods industries in which China captured 70% of US imports, the toy, footwear and kitchenware industries each satisfied all criteria and recorded over one million transactions between July 2007 and July 2012, the 61 month period analyzed.28 Specifically, there were 1,391,624, 1,175,211 and 859,635 total import transactions during this 61 month period in the toys, footwear, kitchenware industries, respectively. Using harmonized system classifications derived from the UN Comtrade database, search terms based on standard trade classifications were used.29 Data are limited to corporations for which public information is available; as such, there are some international buyers for which data or segments of their data are publicly suppressed and are excluded from this analysis.

Data gathering and analysis was first organized through the lens of the very largest US buyers, which were first ranked by size in terms of aggregate shipments.30 The largest US buyers are in a class of their own, easily identified by the sudden drop in the quantity of imports among the next level of mid-sized importers. Next, from buyer transactions, I culled information on each of their suppliers only within the product category of interest. For instance, in the case of Nike, I examined only their footwear suppliers, ignoring suppliers of Nike jerseys or other sports paraphernalia. Most major buyers contracted with between 50 and 200 suppliers within the targeted product categories. Finally, I identified the country of origin of the foreign suppliers,
which refers to the country of the firm with which the US buyer *contracted* for that
transaction, *not* the location of the producing factory. The two can overlap, but a
crucial finding is that this varies widely by industry and firm, and in many cases, there
is little correlation.

Figures 1 through 3 measure both industry-wide and firm-level data on these
three industries. The bar graph at the top of each figure indicates the shares of the
major ‘countries of production’ of that product, drawn from traditional inter-country
trade data.\(^{31}\) This provides a baseline, illustrating China’s clear dominance as a
location of production. The bar graphs in the middle section of the figures indicate
the country of origin of the supplier firms with whom major US buyers sign purchase
contracts, for which data are publicly available. For instance, Mattel directly
contracted 16% of its toy imports from Chinese firms, but 72% from Hong
Kong-based firms. Of course, many of these Hong Kong firms fulfilled their orders
through production units located in China, given that 80% of US toy imports were
produced in China. In these middle sections, the stark differences in contracting
among US corporations highlights the wide variability in corporate sourcing strategies
and their engagement with East Asian suppliers. The firms at the top of these lists
relied more on Chinese suppliers, while firms towards the bottom contract very little
with Chinese firms, even if most of this production ultimately occurs in China-located
factories. Finally, although the contracting strategies between individual
corporations vary enormously, the third bar graph at the bottom represents a rough
industry-wide average, calculated by aggregating all of the transactions of major US
firms and weighting them according to the size of their total overseas shipments. A comparison of the top and bottom bar graphs makes clear an important distinction between the country of production (top bar graph) and the country of contracting (bottom bar graph).

[Figure 1]

[Figure 2]

Toys and footwear offer the starkest contrast. By 2011, as a site of production, China had captured the lion’s share of total US imports. By contrast, Chinese firms had little control over the contracts signed by US buyers: in toys, US buyers clearly favored Hong Kong suppliers and directly contracted less than a third of their orders from Chinese firms; in footwear, they favored both Hong Kong and Taiwanese firms, directly contracting with Chinese firms for only 17% of imports between July 2007 and July 2012. Of course, firm-level data varies more widely. For instance, footwear producers Nike and Adidas preferred a more varied sourcing strategy, drawing in relatively more equal measure from Chinese, Hong Kong, Taiwanese, Vietnamese and Indonesian firms. Nevertheless, in these two industries overall, Hong Kong and Taiwanese suppliers continue to occupy a pivotal, ‘gatekeeper’ position as the contractors of choice between US buyers and production factories. As such, they maintain critical decision-making power over contract fulfillment, and given their deep experience in internationalization, they possess the capabilities and flexibility to
shift production between China and Southeast Asia, or even farther afield. This implies that despite China’s overwhelming dominance in these industries, Chinese firms are positioned in a much more passive, dependent and weak role within the international organization of these industries. The deeper insights into the organization of trade afforded by transactional data reveals that China’s apparent strength in export production is built upon a contracting weakness – one which can shift more rapidly against its favor because fewer and less deep connections are directly forged with China’s economy.

[Figure 3]

In kitchenware, the gap between the location of production and country of contracting, while significant, does not diverge so starkly, meaning that over time, Chinese firms have gained more direct access to a larger share of US buyer contracts. Some US buyers, such as Sango, Tabletops Unlimited and World Kitchen now almost completely rely on Chinese suppliers, while others still remain wedded to their Hong Kong and Taiwanese suppliers.32

However, apart from aggregate trends in contracting by country, most US corporations also create a hierarchy of suppliers, consisting of a handful of ‘entrusted’ suppliers who enjoy not only the lion’s share of the orders, but more importantly, enjoy a more stable and regular flow of contracts. I identify entrusted suppliers according to the relative stability of the monthly flow of orders from their US buyers.
Of course, given the variability of seasonal changes, fashion trends, and the annual Christmas rush, not to mention the undulating fortunes of the US companies themselves, perhaps the only constant factor is instability itself. Nevertheless, US buyers offer more stable contracting to certain firms, while contracting erratically and flexibly with the remainder.

For eleven large US buyers in these three industries for which data was sufficiently rich in terms of number of suppliers and transactions per supplier and per month, I was able to rank their major suppliers according to the degree of stability of monthly contracting. I measured this by calculating the coefficient of variation (CoV) of each supplier’s monthly transaction in kilograms over the same 61 month period. A lower CoV indicates a more stable and regular transacting relationship, symptomatic of an ‘entrusted’ supplier relationship. A higher CoV indicates volatility in contracting, which is the fate of the remaining and far more numerous suppliers who struggle over unstable shares of contracts, indicative of arms-length market relationships. Finally, I ranked all of the major suppliers of each US buyer, starting from those with the lowest CoV (entrusted) to the highest (footloose), and established a threshold once 50% of the buyer’s total purchases had been reached. I considered ‘entrusted,’ this group of most stable contracting relationships.

Although buyers vary widely in their supplier relationship, the most pronounced trend in Table 4 is that for most US buyers, only a very small handful of firms enjoyed not only the most stable contracting, but also supply huge shares of the purchasing needs of these major corporations. In most cases, three to nine of the most stable
suppliers held the contracts for at least half of these corporations’ imports. In combination, the size and stability of these contracting relationships reveal the existence of a clear supplier hierarchy, even in seemingly footloose consumer goods industries.

**[Table 4]**

Table 4 also compares the percentage of total contracts that are awarded to firms originating from developing countries to the share of entrusted contracts awarded to suppliers hailing from developing country. In this exercise, I expand the scope beyond China to developing countries as a whole, given the clear importance of Southeast Asian countries in these data, and to illustrate that the dearth of entrusted contractors is not unique to China. For all eleven buyers, the share of developing country total contracts exceeded their share of entrusted contracts, meaning that they are under-represented as entrusted suppliers. It should be noted that this under-representation in entrusted contracting is *in addition to* the already very low total contracting with developing country suppliers, addressed earlier. For four buyers, no firms from developing countries broke into the 50% threshold of the most stable buyer-supplier contracting. This means that in half of these buyers’ total transactions – the more stable half – there was not a single developing country supplier. All of them were forced to fight for the remaining and highly volatile shares of contracts.
Of course, for some cases the difference between total and entrusted contracting is not substantial. However, there are instances, like Mattel, in which a closer look reveals that the exception actually helps prove the rule. Although the share of Mattel transactions from developing country entrusted firms (15%) differs little from their overall contribution to Mattel’s purchasing strategy (16%), this result is overwhelmingly based on just one Chinese supplier, Foshan Nanhai SinoAmerican. This firm founded in 1984 and located near the border with Hong Kong was an early wholly-owned Chinese entrant in international toy production. More to the point, they established very early their first contracting relationship with Mattel in 1987 and ever since have been a regular and trusted contractor, supplying Mattel to such a degree that they risk becoming over-reliant on the buyer. Thus, in cases like Mattel, some developing country suppliers indeed have managed to break into the ranks of entrusted suppliers, but they were early entrants and their presence is very rare, at times with only a single firm serving as entrusted contractor to US buyers.

This supplier-level analysis illustrates that East Asian firms from the first generation of NICs are over-represented as entrusted suppliers, even when compared to their already enormous share of purchase contracts. It is within this commercial jungle of giant global buyers and entrusted East Asian suppliers that Chinese and other relatively new entrants must struggle for market share over contracts, and which serve as higher, commercial barriers to entry for developing country firms.

7. CONCLUSION
Although export-oriented industrialization is an old strategy, China’s version of this development path has relied very heavily on foreign firms. In contrast to most late developers of the prior generation, in which a division of labor existed between domestic capital in light industries and foreign capital in advanced industries, China’s pattern of FDI is the reverse. More insightfully, the distribution of FDI within industries from the up-to-downstream offers pause to China’s acclaimed industrialization. At first blush, theories of FDI have difficulty explaining why, compared to other industries and their upstream counterparts, Chinese firms have the weakest presence in the simplest of downstream light industries, even after thirty years of experience in international trade. In addition, despite China’s overwhelming presence in light industries globally, Chinese domestic firms continue to occupy rather weak positions in the division of labor as East Asian intermediaries dominate contracts with transnational buyers, despite regular predictions of their imminent demise. This bodes poorly for Chinese firms as research indicates that intermediaries constrain industrial upgrading. Thus, from both ownership and governance perspectives, Chinese domestics firms are weak and passive.

This paper systematically measured the degree and variation of this phenomenon across firms and industries. Aggregate industrial trends illustrate that East Asian intermediaries consistently occupy powerful positions in many light industry value chains. One indicator of this is the large gap between China as a site of production and the weak role of its firms as contractors of choice with US buyers, especially in toys and footwear. The degree to which these findings can be generalized to other
industries is a question for further research. The data also highlight that there is a two-tiered system of entrusted and footloose contracting. This hierarchy has erected new entry barriers for Chinese firms, because they privilege entrusted firms, often overseas Chinese, who are positioned as gatekeepers due to their longer history and intimate working relationship with their buyers. It is worth reiterating that production capabilities are still critical and change dynamically, which means that the new barriers to entrusted contracting are additive – raising the threshold for developing country firms. This is particularly disturbing for developing countries in light industries, which traditionally held the greatest promise for less developed countries to gain a foothold on the ladder of industrialization. Foreign and domestic firms still have their respective advantages; however, this paper suggests that in light industries, in which domestic developing country firms are expected to have an upperhand, contractual ties remain a powerful trump card.

Apart from these direct findings, the results also lend implicit support to the cognate ‘global production networks’ literature among economic geographers, which urges greater attention to the multiscalarity and complexity of global production networks and how they become politically and socially embedded in particular locations (Coe, Dicken, & Hess, 2008; Henderson, et al., 2002; Yeung, 2009). The persistent power of intermediary contractors from the last generation of NICs implies the usefulness of a wider lens beyond dyadic buyer-supplier linkages or core-periphery frameworks, and reinforces the importance of the nationality of firms (Henderson, et al., 2002).
However, the role of contracting as a differentiated link in the global division of labor is perhaps noteworthy for deeper reasons. As this paper suggests, the control over stable contracting implies the power of decision-making. For the now highly internationalized firms from the East Asian NICs, this entails the capacity to more rapidly shift production decisions than if contracts were in the hands of domestic Chinese firms. This may cause problems as China currently undergoes a transition from sunset to sunrise industries. Thus, the paper suggests that the possibilities for more rapid ‘disarticulation’ are heightened (Bair & Werner, 2011), at least in light industries which employ a substantial workforce in China. We may now be witnessing incipient signs of this as contractors appear to move light industry production to a new generation of less developed countries (Frederick & Gereffi, 2011; Mehta, 2010). As Polanyi, Keynes and others were at pains to stress, it often is the timing and speed of economic transitions which are the most critical factors. The divorce between production and contracting in the case of Chinese and East Asian firms implies that the transition (in this case, out of China’s sunset industries) may very well be more rapid than if production and contracting were not so differentiated. This suggests that overseas Chinese contributions to China may prove to be a mixed blessing. On the one hand, they certainly contributed enormously to China’s meteoric rise, but it also means that native Chinese firms remain in relatively weak and dependent positions in terms of contracting. Perhaps China’s development model is less secure than assumed and that it will be increasingly put to the test as it undergoes middle income transitions.
References

All China Marketing Research. (various years). *Zhongguo shichang nianjian* [China markets yearbook]. Hong Kong: City University of Hong Kong Press.


Notes

1 Even in Europe, China’s share of total imports is around 50% in many of these same consumer goods sectors.

2 In the global value chains literature, buyer-driven chains which are the domain of light industries are generally believed to be populated by domestic suppliers (Gereffi, 1996; Gereffi, 2013). This was also true among most of the Newly Industrialized Countries (NICs) in the prior era of late developers (Haggard 1990).

3 For the original conceptualization and good updates and summaries, see Dunning 1980, 1995, and Dunning & Lundan, 2008.

4 There are many other literatures with similar approaches. For a small sample of foundational works and overviews across disciplines, see Arndt and Kierzkowski, 2001; Bair, 2005, 2009; Berger, 2005; Borrus, Ernst & Haggard, 2000; Feenstra, 1998; Gereffi & Korzeniewicz, 1994; Henderson, et al., 2002; Krugman, 1995; Sturgeon, 2002; WTO & IDE-JETRO, 2011. But, the GVC literature (e.g. Humphrey & Schmitz, 2002; Gereffi, Humphrey & Sturgeon, 2005), is more focused on theorizing firm upgrading.

5 China’s ‘shallow’ integration also has been noted by Steinfeld (2004), however, this paper differs from Steinfeld in that it focuses on light industries, has no connection to ‘modularization’ and understands China’s developmental weaknesses as contractual in nature.

6 China’s definitions and collection of FDI data closely adheres to the IMF and OECD standards. The only major *definitional* discrepancy is that China includes imported physical equipment as FDI, whereas international standards classify this under current accounts as a trade import (see Bajpai & Dasgupta, 2004 for details). However, China’s *threshold* for differentiating FDI from other forms of short-term portfolio investment is substantially higher. Whereas international standards consider only 10% equity ownership as FDI, China requires a 25% equity stake. This means that the data on foreign ownership in this paper are likely under-estimations compared to if the lower 10% threshold were
applied.

7 The ideas behind ownership advantages originally derived from Stephen Hymer’s path-breaking work (Hymer, 1976).

8 For instance, see data on foreign firm shares by industry in Evans, 1979, p. 114, Encarnation, 1989, p. 6, and Wade, 1990, p. 153 for Brazil, India and Taiwan, respectively.

9 Two-digit industrial data refers to the level of specificity of industrial classification and is broader, such as ‘textiles,’ than the narrower four-digit level data, such as ‘cotton spinning,’ ‘cotton weaving,’ or ‘cotton dyeing.’

10 The only industries that appear to fit with expectations are the electronics industries, though some scholars consider these as labor intensive industries too (see Naughton, 2007; Steinfeld, 2010).

11 The tobacco industry is the exception, largely because there are heavy restrictions on foreign ownership given its importance to local government revenues.

12 My analysis consistently found that foreign firms paid higher wages by 10-30%, even in light industries.

13 Only the rubber industry does not conform to the basic up- and downstream pattern, although the change over time in rubber industries does support my general argument, in that foreign firms became increasingly dominant in all of the rubber sub-industries.

14 The ending of quotas opened vast new opportunities, presumably allowing less sophisticated domestic firms to enter export markets. See Yoffie, 1983; for an application to China, see Moore, 2002.


16 This is not necessarily true in heavy industries. For instance, in steel, China has maintained a supportive industrial policy which restricted foreign investments. See National Development and Reform Commission, 2005.

17 I refer here to his data in chapter one. In chapter four, he uses data at the four-digit level, but only in particular industries like garments and handicrafts, and crucially not across the production chain as I do.

18 Round-tripping is hard to track, but estimates fall within the 25% range, with some even as high as 40% of Chinese FDI. However, this paper focuses on the patterns and distribution of FDI across industries, and research has not uncovered consistent sectoral patterns. (See Bajpai and Dasgupta, 2004; Harrold and Lall, 1993; Huang, 1998; Xiao, 2004).
By contrast, Yeung (2000) sees Singaporean firms as entering JV relationships to gain political leverage and strategic resources.

Huang points to a rise in contractual alliances starting in 1997, but the share of these alliances remains a very small amount compared to FDI. From 1979 to 1997, foreign capital from contractual alliances totaled just 2.8% of the total utilized amount of foreign direct investment; this rose only slightly to 5.7% between 1997 and 2010, and this latter figure is inflated because of statistical definition changes in 1997. FDI remains the clear favored mode of foreign investment, and there does not appear to be a clear shift in the trend lines. (State Statistical Bureau, various years)

By contrast, Huang’s conclusions derive largely from joint venture data, but this constitutes only a minority share of FDI in China and so does not get to the heart of China’s light industry paradox.

Although my argument and the evidence below raises questions about GVC scholarship on the role of intermediary contractors, in other respects, the evidence also supports GVC scholarship, especially in confirming the ‘relational’ nature of some light industries (Gereffi, Humphrey & Sturgeon, 2005). I thank a reviewer for pointing this out.

Classifications of upgrading vary by author, but for this list and their definitions, see Humphrey & Schmitz, 2002.

It can be hard to pinpoint the exact dividing line between direct producers and ‘pure-play’ trading companies. On the one hand, in many light industries, there is a good deal of subcontracting from first-tier to second- or third-tier contractors. For instance, NGOs and certifiers of fair labor practices have long lamented the difficulty of tracking and verifying the chain of subcontractors. In addition, it is often hard to differentiate direct producers from pure trading companies since most contractors do both to varying degrees, such that a large grey zone exists between the two ideal types. For instance, Gereffi, Humphrey & Sturgeon (2005, p.92) cite both Fang Brothers (which tends towards direct producers) and Li & Fung (which is a pure-play trading company) as examples of “intermediaries.”

This paper only provides data on the single direct trade link between buyers and first-tier suppliers, given that the data source draws exclusively from official trade statistics. As the data below illustrate, they are ‘intermediary’ firms because to an extensive degree, contracting is done with Hong Kong or Taiwanese-based firms, but production is done by China and Southeast Asian-based factories. Researching and measuring the extent of subcontracting in the much more complex and opaque linkages between first-tier and second (or third) tier contractors is greatly desired and would have
important implications for this paper and this field of research.

25 In Table 3, a ratio of 1.00 means that overseas Chinese and other foreign investors own an equivalent amount of total assets. Anything above 1.00 means that overseas Chinese own more than other foreign firms.

26 These 94 sub-categories are scattered over the following two-digit categories: 39, 40, 42-44, 61-65, 73, 91, 94, 95. It excludes food and food processing categories. In descending order of China’s market share, the 12 four-digit categories include 9505, 6405, 9503, 9504, 6402, 9404, 3924, 4202, 7323, 6404, 6505, 6303, 9506, 6307.

27 First, U.S. corporations are allowed to apply to the US Customs Bureau to withhold from public view their own and their suppliers’ corporate information, reducing the number of US buyers to observe. In other cases, some US firms source through their own in-house but foreign-located sourcing companies, or, more rarely, their own overseas production units – relationships which one would expect to operate very differently from purchase contracts. Finally, for smaller corporations, there were insufficient numbers of suppliers to illustrate a hierarchy, or transactions were too infrequent to offer a robust picture of monthly buying patterns.

28 In an attempt to cast as wide a net for data as possible, “kitchenware” is an amalgam of the following product lines drawn partly from keywords in UN Comtrade data: kitchenware, tableware, dishware, dinnerware, flatware, cutlery, glassware, chinaware, porcelain, cookware, bakeware and silverware.

29 Search terms ‘footwear’ and ‘toys’ corresponded with the HS codes for 6401, 6402, 6403, 6404, 6405, 6406 and 9501, 9502, 9503, respectively. ‘Kitchenware’ was an aggregate category that utilized the following terms: ‘kitchenware, tableware, dishware, dinnerware, flatware, cutlery, glassware, chinaware, porcelain, cookware, bakeware and silverware.’ The validity of these search terms was evident by the largest 20-30 US buyers (importers) of these products, many of which are well-known retailers in their respective sectors (this is also evident from Figures 1 to 3). All of the data in Figures 1 to 3 include transactions from the entire 61 month data range. This article utilized www.panjiva.com for data retrieval, though there are several other commercial sources for these data. More specifics on these data and information on bills of lading can be found at the website.

30 The US Customs Bureau does not require bills of lading to include the dollar value of the shipments, so ranking was done through the kilogram weight of shipments.

31 I utilized the UN Comtrade database.
32 Readers may not recognize many of these corporate names because they own multiple brands. For instance, Lifetime Brands alone owns the brands for Farberware, KitchenAid, Cuisinart and 21 other branded lines.

33 I use OECD membership, excluding Mexico and Turkey, to distinguish advanced from developing countries. I include Hong Kong and Taiwan as advanced country economies.

34 The other two developing country suppliers, Montoi and Mabamex, supply minor shares.

35 For a different interpretation of Chinese manufacturer’s weakness in high-tech industries, see Steinfeld, 2004.
Tables
### Table 1: Industries with 40% or more foreign ownership in China (by total assets)

<table>
<thead>
<tr>
<th>1996</th>
<th>2004</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications Equipment, Electronics (46%)</td>
<td>Communications Equipment, Electronics (67%)</td>
<td>Communications Equipment, Electronics (79%)</td>
</tr>
<tr>
<td>Leather, Fur, Feather Products (44%)</td>
<td>Educational, Sports, Cultural Products (63%)</td>
<td>Educational, Sports, Cultural Products (58%)</td>
</tr>
<tr>
<td>Garments, Footwear, Headgear (43%)</td>
<td>Furniture (52%)</td>
<td>Leather, Fur, Feather Products (50%)</td>
</tr>
<tr>
<td>Educational, Sports, Cultural Products (40%)</td>
<td>Leather, Fur, Feather Products (51%)</td>
<td>Rubber Products (45%)</td>
</tr>
<tr>
<td>Measuring Instruments, Office Equipment (50%)</td>
<td>Paper and Paper Products (44%)</td>
<td></td>
</tr>
<tr>
<td>Rubber Products (46%)</td>
<td>Plastic Products (40%)</td>
<td>Measuring Instruments, Office Equipment (42%)</td>
</tr>
<tr>
<td></td>
<td>Garments, Footwear, Headgear (43%)</td>
<td></td>
</tr>
<tr>
<td>Plastic Products (40%)</td>
<td>Measuring Instruments, Office Equipment (42%)</td>
<td></td>
</tr>
<tr>
<td>Garments, Footwear, Headgear (46%)</td>
<td>Plastic Products (42%)</td>
<td></td>
</tr>
<tr>
<td>Handicrafts, Misc. Manufacturing (43%)</td>
<td>Transportation Equipment (41%)</td>
<td>Beverages (41%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Furniture (40%)</td>
</tr>
</tbody>
</table>

### Table 2. Foreign Direct Investment as a Share of Total Assets by Sub-industry, 1995-1998 and 2007-2010 Averages

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Processing</td>
<td></td>
<td></td>
<td>Grain Milling</td>
<td>9.0%</td>
<td>7.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Saw wood</td>
<td>14.4%</td>
<td>15.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rice, Flour Products</td>
<td>27.8%</td>
<td>16.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wood chip Processing</td>
<td>34.9%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Starch Products</td>
<td>24.1%</td>
<td>26.5%</td>
<td>Plywood</td>
<td>41.0%</td>
<td>16.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Baked Foods</td>
<td>50.7%</td>
<td>54.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fiberboard</td>
<td>37.4%</td>
<td>16.8%</td>
</tr>
<tr>
<td>Sugar Products</td>
<td></td>
<td></td>
<td>Flax board</td>
<td>12.2%</td>
<td>20.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sugar Processing</td>
<td>11.4%</td>
<td>16.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wood Products</td>
<td>56.5%</td>
<td>34.3%</td>
</tr>
<tr>
<td>Candy</td>
<td>50.0%</td>
<td>68.4%</td>
<td>Wood Furniture</td>
<td>40.5%</td>
<td>41.5%</td>
</tr>
<tr>
<td>Meat Products</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock Slaughter</td>
<td>7.7%</td>
<td>9.8%</td>
<td>Bamboo Products</td>
<td>43.6%</td>
<td>25.5%</td>
</tr>
<tr>
<td>Canned Meats</td>
<td>9.0%</td>
<td>26.3%</td>
<td>Bamboo Furniture</td>
<td>19.0%</td>
<td>48.6%</td>
</tr>
<tr>
<td>Meat Products</td>
<td>20.4%</td>
<td>48.8%</td>
<td>Rubber</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotton Textile-Garments</td>
<td></td>
<td></td>
<td>Synthetic Rubber</td>
<td>33.6%</td>
<td>46.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rubber Board/Fiber</td>
<td>11.1%</td>
<td>23.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Auto Tires</td>
<td>39.1%</td>
<td>47.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rubber Parts</td>
<td>28.3%</td>
<td>39.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rubber Products</td>
<td>29.3%</td>
<td>49.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rubber Boots</td>
<td>18.0%</td>
<td>41.0%</td>
</tr>
<tr>
<td>Wool Textile-Garments</td>
<td></td>
<td></td>
<td>Plastics</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Primary Form Plastic</td>
<td>14.0%</td>
<td>38.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plastic Thread/Rope</td>
<td>21.7%</td>
<td>15.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plastic Board/Fiber</td>
<td>26.3%</td>
<td>34.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plastic Parts</td>
<td>41.1%</td>
<td>57.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plastic Furniture</td>
<td>60.2%</td>
<td>41.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Daily Plastic Products</td>
<td>61.7%</td>
<td>52.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Toys</td>
<td>61.6%</td>
<td>66.8%</td>
</tr>
<tr>
<td>Silk Textile-Garments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Silk Reeling</td>
<td>1.4%</td>
<td>4.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Silk Spinning</td>
<td>8.1%</td>
<td>24.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Silk Dye/Printing</td>
<td>21.1%</td>
<td>21.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Silk Knitwear</td>
<td>40.1%</td>
<td>30.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Silk Products</td>
<td>39.3%</td>
<td>45.1%</td>
</tr>
<tr>
<td>Leather Goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leather Tanning</td>
<td>37.3%</td>
<td>48.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ferrocement Smelting</td>
<td>9.7%</td>
<td>17.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leather Apparel</td>
<td>31.6%</td>
<td>31.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Metal Door/Windows</td>
<td>21.3%</td>
<td>38.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leather Shoes</td>
<td>61.1%</td>
<td>59.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stainless Steel Prod.</td>
<td>35.9%</td>
<td>43.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leather Luggage</td>
<td>64.3%</td>
<td>60.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Metal Furniture</td>
<td>32.9%</td>
<td>53.4%</td>
</tr>
<tr>
<td>Fur Goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fur Tanning</td>
<td>26.2%</td>
<td>39.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vacuum Parts</td>
<td>44.4%</td>
<td>36.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fur Clothing</td>
<td>22.0%</td>
<td>37.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Semi Conductors</td>
<td>38.7%</td>
<td>71.7%</td>
</tr>
<tr>
<td>Feather (Down) Products</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Electronic Comp.</td>
<td>43.5%</td>
<td>76.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Down Processing</td>
<td>25.8%</td>
<td>17.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Integrated Circuits</td>
<td>73.9%</td>
<td>84.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Down Products</td>
<td>24.6%</td>
<td>62.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Computer Peripherals</td>
<td>68.2%</td>
<td>89.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Computer Assembly</td>
<td>38.7%</td>
<td>85.6%</td>
</tr>
</tbody>
</table>

Source: All China Marketing Research (various years); University of Michigan, China Data Center.

Note: Industry codes are listed in the table of contents of all volumes of All China Marketing Research.

For China's definition of FDI, see footnote 6.
Table 3: Foreign Ownership: Industries with at least 35% of assets owned by Overseas Chinese, 2004.

<table>
<thead>
<tr>
<th>By Industry</th>
<th>Overseas Chinese Firms</th>
<th>Other Foreign Firms</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wool Dye/Print</td>
<td>59.9%</td>
<td>10.9%</td>
<td>5.47</td>
</tr>
<tr>
<td>Toys</td>
<td>58.4%</td>
<td>16.8%</td>
<td>3.48</td>
</tr>
<tr>
<td>Bamboo, Cane</td>
<td>57.1%</td>
<td>12.9%</td>
<td>4.43</td>
</tr>
<tr>
<td>Protective</td>
<td>56.5%</td>
<td>36.7%</td>
<td>1.54</td>
</tr>
<tr>
<td>Sportswear</td>
<td>53.9%</td>
<td>20.9%</td>
<td>2.58</td>
</tr>
<tr>
<td>Other Non-electric</td>
<td>53.3%</td>
<td>36.8%</td>
<td>1.45</td>
</tr>
<tr>
<td>Home Appliances</td>
<td>49.3%</td>
<td>19.6%</td>
<td>2.51</td>
</tr>
<tr>
<td>Projection</td>
<td>49.0%</td>
<td>13.0%</td>
<td>3.77</td>
</tr>
<tr>
<td>Equipment</td>
<td>48.4%</td>
<td>23.9%</td>
<td>2.03</td>
</tr>
<tr>
<td>Paintings, Crafts</td>
<td>48.3%</td>
<td>22.8%</td>
<td>2.12</td>
</tr>
<tr>
<td>Balls</td>
<td>46.7%</td>
<td>20.9%</td>
<td>2.23</td>
</tr>
<tr>
<td>Clocks</td>
<td>45.7%</td>
<td>21.8%</td>
<td>2.10</td>
</tr>
<tr>
<td>Sporting Goods</td>
<td>45.1%</td>
<td>27.3%</td>
<td>1.65</td>
</tr>
<tr>
<td>Stationary</td>
<td>44.4%</td>
<td>19.4%</td>
<td>2.29</td>
</tr>
<tr>
<td>Home Audio</td>
<td>43.8%</td>
<td>31.9%</td>
<td>1.37</td>
</tr>
<tr>
<td>Equipment</td>
<td>42.9%</td>
<td>31.0%</td>
<td>1.38</td>
</tr>
<tr>
<td>Other Cultural</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Articles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor Games</td>
<td>40.8%</td>
<td>7.5%</td>
<td>5.41</td>
</tr>
<tr>
<td>Other Daily-use</td>
<td>40.1%</td>
<td>26.9%</td>
<td>1.49</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>39.6%</td>
<td>18.6%</td>
<td>2.12</td>
</tr>
<tr>
<td>Daily-use Plastic</td>
<td>39.1%</td>
<td>25.4%</td>
<td>1.54</td>
</tr>
<tr>
<td>Products</td>
<td>38.9%</td>
<td>28.4%</td>
<td>1.37</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By Industry</th>
<th>Overseas Chinese Firms</th>
<th>Other Foreign Firms</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leather Bags</td>
<td>38.9%</td>
<td>27.1%</td>
<td>1.44</td>
</tr>
<tr>
<td>Other Home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric Appliances</td>
<td>38.8%</td>
<td>19.1%</td>
<td>2.03</td>
</tr>
<tr>
<td>Other Cultural</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office machines</td>
<td>38.7%</td>
<td>28.5%</td>
<td>1.36</td>
</tr>
<tr>
<td>Kitchen Fans</td>
<td>38.6%</td>
<td>14.3%</td>
<td>2.71</td>
</tr>
<tr>
<td>Ventilation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Arts, Crafts</td>
<td>38.2%</td>
<td>15.3%</td>
<td>2.49</td>
</tr>
<tr>
<td>Daily-use Plastic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Products</td>
<td>37.8%</td>
<td>26.1%</td>
<td>1.45</td>
</tr>
<tr>
<td>Circuit Printing</td>
<td>37.3%</td>
<td>49.8%</td>
<td>0.75</td>
</tr>
<tr>
<td>Leather Gloves</td>
<td>37.1%</td>
<td>31.7%</td>
<td>1.17</td>
</tr>
<tr>
<td>Other Canned</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foods</td>
<td>37.0%</td>
<td>24.7%</td>
<td>1.50</td>
</tr>
<tr>
<td>Glasses</td>
<td>36.9%</td>
<td>32.6%</td>
<td>1.13</td>
</tr>
<tr>
<td>Leather Products</td>
<td>36.7%</td>
<td>26.0%</td>
<td>1.41</td>
</tr>
<tr>
<td>Misc. Plastics</td>
<td>36.6%</td>
<td>33.1%</td>
<td>1.11</td>
</tr>
<tr>
<td>Diving Equipment</td>
<td>36.4%</td>
<td>4.5%</td>
<td>8.00</td>
</tr>
<tr>
<td>Foam Plastics</td>
<td>36.4%</td>
<td>23.3%</td>
<td>1.56</td>
</tr>
<tr>
<td>Other Sports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>36.1%</td>
<td>30.4%</td>
<td>1.19</td>
</tr>
<tr>
<td>Ceramic Garden</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Displays</td>
<td>35.6%</td>
<td>12.1%</td>
<td>2.95</td>
</tr>
</tbody>
</table>

Industry Averages: 42.4% 23.5% 2.24

Note: A ratio of 1.00 means that overseas Chinese assets are equal to all other foreign assets in China. For China's definition of FDI, see footnote 6.

Table 4: Entrusted Suppliers and Developing Country (DC) Shares of Contracts

<table>
<thead>
<tr>
<th></th>
<th>Total Suppliers (firms)</th>
<th>Entrusted Suppliers (firms)</th>
<th>DC Share of Total Contracts</th>
<th>DC share of Entrusted Supplier Contracts</th>
<th>DC Entrusted Suppliers (firms)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Footwear</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skechers</td>
<td>152</td>
<td>7</td>
<td>11%</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>CJ Clark</td>
<td>72</td>
<td>5</td>
<td>13%</td>
<td>9%</td>
<td>2</td>
</tr>
<tr>
<td>VCS Group</td>
<td>84</td>
<td>5</td>
<td>18%</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Nike</td>
<td>80</td>
<td>24</td>
<td>63%</td>
<td>38%</td>
<td>13</td>
</tr>
<tr>
<td>Adidas</td>
<td>60</td>
<td>17</td>
<td>66%</td>
<td>16%</td>
<td>9</td>
</tr>
<tr>
<td><strong>Toys</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Promotions</td>
<td>48</td>
<td>6</td>
<td>17%</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Spin Masters</td>
<td>61</td>
<td>9</td>
<td>5%</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Mattel</td>
<td>79</td>
<td>23</td>
<td>16%</td>
<td>13%</td>
<td>3</td>
</tr>
<tr>
<td><strong>Kitchenware</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifetime Brands</td>
<td>217</td>
<td>25</td>
<td>56%</td>
<td>48%</td>
<td>12</td>
</tr>
<tr>
<td>Tabletops Unlimited</td>
<td>87</td>
<td>8</td>
<td>90%</td>
<td>82%</td>
<td>6</td>
</tr>
<tr>
<td>Bradshaw International</td>
<td>28</td>
<td>3</td>
<td>27%</td>
<td>21%</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Entrusted suppliers are defined as those firms with the most stable contracting relationship with their US buyer measured by the coefficient of variation (CoV) of monthly transactions in kilograms over a 61 month period. I ranked the firms by CoV and included all firms starting with the lowest CoV (most stable contracting) through until 50% of the buyer’s purchases were met. “DC” stands for developing countries, defined as OECD countries, excluding Mexico and Turkey. Furthermore, Hong Kong and Taiwan are not considered developing countries. Data run from July 2007 to July 2012.

Source: U.S. Customs Bureau Waterborne Shipping Manifest Import Data.
Figure 1. Production and Contracting in Toys

Source: U.S. Customs Bureau Waterbourne Shipping Manifest Import Data. Data include transactions from July 2007 to July 2012.
Figure 2. Production and Contracting in Footwear

Source: U.S. Customs Bureau Waterbourne Shipping Manifest Import Data. Data include transactions from July 2007 to July 2012.
Figure 3. Production and Contracting in Kitchenware

Note: To cast as wide a net as possible, ‘kitchenware’ is a composite of the following product lines drawn partly from keywords in UN Comtrade data: kitchenware, tableware, dishware, dinnerware, flatware, cutlery, glassware, chinaware, porcelain, cookware, bakeware and silverware.
Source: U.S. Customs Bureau Waterbourne Shipping Manifest Import Data. Data include transactions from July 2007 to July 2012.