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# Global value chains in a post-Washington Consensus world

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## ABSTRACT

Contemporary globalization has been marked by significant shifts in the organization and governance of global industries. In the 1970s and 1980s, one such shift was characterized by the emergence of buyer-driven and producer-driven commodity chains. In the early 2000s, a more differentiated typology of governance structures was introduced, which focused on new types of coordination in global value chains (GVCs). Today the organization of the global economy is entering another phase, with transformations that are reshaping the governance structures of both GVCs and global capitalism at various levels: (1) the end of the Washington Consensus and the rise of contending centers of economic and political power; (2) a combination of geographic consolidation and value chain concentration in the global supply base, which, in some cases, is shifting bargaining power from lead firms in GVCs to large suppliers in developing economies; (3) new patterns of strategic coordination among value chain actors; (4) a shift in the end markets of many GVCs accelerated by the economic crisis of 2008–09, which is redefining regional geographies of investment and trade; and (5) a diffusion of the GVC approach to major international donor agencies, which is prompting a reformulation of established development paradigms.

## KEYWORDS

Globalization; development; global value chains; global commodity chains; Latin America; East Asia; import-substituting industrialization (ISI); export-oriented industrialization (EOI); value-added trade.

## I. VIEWING THE GLOBAL ECONOMY THROUGH A VALUE-CHAIN LENS

Globalization has given rise to a new era of international competition that is reshaping global production and trade and altering the organization of industries (Gereffi, 2011). Since the 1960s, international companies have been

slicing up their supply chains in search of low-cost and capable suppliers offshore. The literature on 'the new international division of labor' traced the surge of manufactured exports from the Third World to the establishment of labor-intensive export platforms set up by multinational firms in low-wage areas (Fröbel *et al.*, 1981). This was typified by the American production-sharing or 'twin plant' program with Mexico and the German export-processing zones for apparel assembly in Central and Eastern Europe. The pace of offshore production soon accelerated dramatically and took new organizational forms (Dicken, 2011). In the 1970s and 1980s, US retailers and brand-name companies joined manufacturers in the search for offshore suppliers of most categories of consumer goods, which led to a fundamental shift from what had been 'producer-driven' commodity chains to 'buyer-driven' chains. The geography of these chains expanded from regional production-sharing arrangements to full-fledged global supply chains, with a growing emphasis on East Asia (Gereffi, 1994, 1996).

In the 1990s and 2000s, the industries and activities encompassed by global supply chains grew exponentially, covering not only finished goods, but also components and subassemblies, and affecting not just manufacturing industries, but also energy, food production and all kinds of services, from call centers and accounting to medical procedures and research and development (R&D) activities of the world's leading transnational corporations (Engardio *et al.*, 2003; Engardio and Einhorn, 2005; Wadhwa *et al.*, 2008). Since the early 2000s, the global value chain (GVC) and global production network (GPN) concepts gained popularity as ways to analyze the international expansion and geographical fragmentation of contemporary supply chains (Gereffi *et al.*, 2001; Dicken *et al.*, 2001; Henderson *et al.*, 2002; Gereffi, 2005).

There are numerous reviews of the distinctive features of the global commodity chain (GCC) and the GVC and GPN approaches to analyzing global supply chains.<sup>1</sup> In general, they all characterize the global economy as consisting of complex and dynamic economic networks made up of inter-firm and intra-firm relationships. However, it is equally true that there are national and international political underpinnings to the shifts in global supply chains that have taken place over the past four decades. In the 1960s and 1970s, the key players in most international industries were large, vertically integrated transnational corporations (Vernon, 1971) and their link to the growing markets of developing countries was primarily via the import-substituting industrialization (ISI) model of growth that had been well established in Latin America, Eastern Europe and parts of Asia since the 1950s. The 'East Asian miracle' (World Bank, 1993), based on the rapid economic advance of Japan and the so-called East Asian tigers (South Korea, Taiwan, Hong Kong and Singapore) since the 1960s, highlighted a contrasting development model: export-oriented industrialization (EOI) (Gereffi and Wyman, 1990). Buttressed by

the neoliberal thrust of the Reagan and Thatcher governments in the US and the UK, respectively, export-oriented development became the prevailing orthodoxy for developing economies around the world. This model came to be known as the 'Washington consensus,' and EOI was lauded for giving many small economies in the developing world the opportunity to benefit from scale economies and to learn from exporting to much larger trade partners, thereby overcoming the bias of the ISI model toward the limited number of developing countries with large domestic markets.

The death knell for ISI, especially in Latin America, came from the oil shock of the late 1970s and the severe debt crisis that followed it (Urquidí, 1991). The ISI approach had devised no way to generate the foreign exchange needed to pay for increasingly costly imports, and escalating debt service payments led to a net outflow of foreign capital that crippled economic growth. When many developing countries, under pressure from the International Monetary Fund (IMF) and the World Bank, made the transition from ISI to EOI during the 1980s (Gereffi and Wyman, 1990), there was an equally profound reorientation in the strategies of transnational corporations. The rapid expansion of industrial capabilities and export propensities in a diverse array of newly industrializing economies in Asia and Latin America allowed transnational corporations to accelerate their own efforts to outsource relatively standardized activities to lower-cost production locations worldwide. It is precisely this change in the strategies of transnational companies that enabled the shift from ISI to EOI in developing economies, and it corresponds to the shift from producer-driven to buyer-driven commodity chains at the level of global industries (Gereffi and Korzeniewicz, 1994).<sup>2</sup>

However, the development story for East Asia and other newly industrializing economies cannot be captured solely through a contrast of the ISI and EOI models, since the shift from ISI to EOI was not total or uncontested in either East Asia or Latin America. Indeed, elements of both strategies were intertwined since countries tended to move from relatively easy to more difficult phases of both ISI and EOI over time (Gereffi and Wyman, 1990). In addition, the growth of GPNs has been linked to rising levels of income inequality, within and between countries, which can be explained in large measure by the dynamics of rents in GVCs, which are increasingly determined by intangible assets (such as copyrights, brand names and design) as more tangible barriers to entry in manufacturing have tended to fall (Kaplinsky, 2000). In the wake of the 2008–09 global economic crisis, the rapid growth of productive capabilities in China, India and other large emerging economies has created a profound shift in global demand for both finished goods and intermediates from North to South, with both positive and negative implications for developing country exporters (Kaplinsky and Farooki, 2011).

Today, the organization of the global economy is entering a new phase, or what some have referred to as a 'major inflection point' (Fung, 2011), which could have dramatic implications for economic and social upgrading and downgrading among countries, firms and workers. The role of the 'Washington consensus' as a paradigm for developing countries has been severely weakened (Gore, 2000) and no alternative development strategy has taken its place. Thus, our analysis of GVCs in this post-Washington Consensus world must not only take account of changes in the organization of production and trade on a global scale, but also examine the role of emerging economies as new sources of demand and production competencies in the global economy. The increasing importance of GVCs in the current era challenges the traditional way of measuring countries' export performance and international competitiveness, and it suggests that the post-crisis futures of advanced industrial and developing economies are interdependent to a hitherto unprecedented degree.

The remaining sections of this paper are organized as follows. First, recent trends in GVC governance reveal a growing consolidation in the supply base among both countries and firms, and we argue that geographic consolidation is facilitating the co-evolution of more concentrated lead firms, suppliers and intermediaries in GVCs. Second, the evolution of GVCs has altered our basic notions of how and where economic development occurs, which is illustrated by the growing importance of value-added trade and shifting end markets for GVCs, which are giving rise to new patterns of regionalization in the global economy. Third, the GVC framework has become increasingly prominent in the development agendas of a diverse array of bilateral and multilateral donor organizations, which is leading to a greater focus on showing how vertically coordinated trade and investment patterns in the global economy can be linked to employment outcomes and a renewed concern with social upgrading. Conclusions will be drawn about how these interrelated changes are likely to shape economic and social welfare in emerging models of global development.

## II. GOVERNANCE STRUCTURES AND INCREASING CONCENTRATION IN GLOBAL VALUE CHAINS

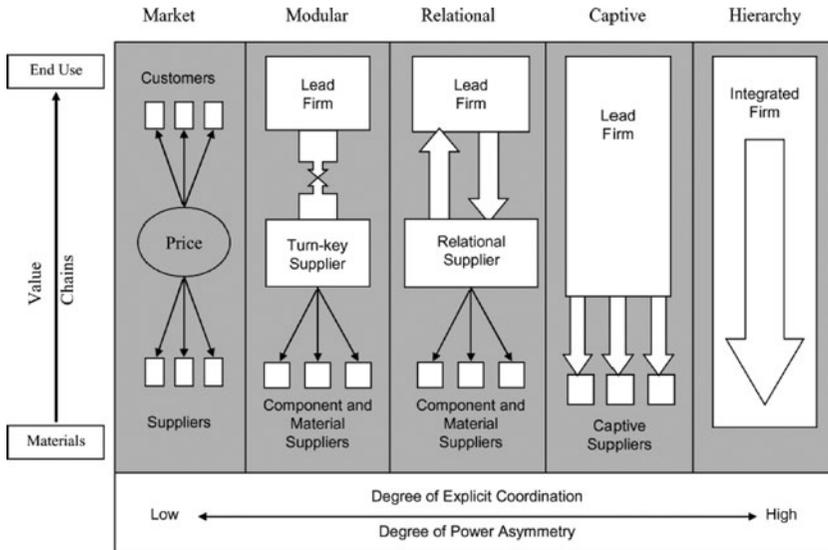
The GVC framework focuses on globally expanding supply chains and how value is created and captured therein. By analyzing the full range of activities that firms and workers perform to bring a specific product from its conception to its end use and beyond, the GVC approach provides a holistic view of global industries from two contrasting vantage points: top down and bottom up. The key concept for the top-down view is the 'governance' of GVCs, which focuses mainly on lead firms and the organization of global industries; the main concept for the bottom-up perspective is 'upgrading,'

which focuses on the strategies used by countries, regions and other economic stakeholders to maintain or improve their positions in the global economy (Gereffi and Fernandez-Stark, 2011). Recent trends related to GVC governance will be discussed in this section of the paper, and the links between economic and social upgrading and new forms of value-added trade and shifting end markets in GVCs will be the focus of the next section.

Governance is a centerpiece of GVC analysis. It shows how corporate power can actively shape the distribution of profits and risks in an industry, and it identifies the actors who exercise such power. Within the chain, power at the firm level can be exerted by lead firms or suppliers. In 'producer-driven' chains, power is held by final-product manufacturers and is characteristic of capital-, technology- or skill-intensive industries. In 'buyer-driven' chains, retailers and marketers of final products exert the most power through their ability to shape mass consumption via dominant market shares and strong brand names.<sup>3</sup> They source their products from a global network of suppliers in cost-effective locations to make their goods. The most notable form of 'supplier power' comes via platform leadership (e.g., firms that exhibit marketing or technological dominance, which allows them to set standards and get higher returns for their products), although supplier power typically is not associated with the explicit coordination of buyers or other downstream value chain actors (Frederick and Gereffi, 2009; Sturgeon, 2009).

The role played by lead firms is highlighted in various typologies of GVC governance. The initial distinction between producer-driven and buyer-driven commodity chains was introduced in the mid-1990s in order to mark the rise of global buyers in the 1970s and 1980s as retailers and brand marketers began to set up international sourcing networks to procure consumer goods directly from offshore suppliers, mainly in East Asia (Gereffi, 1994, 1999). These 'full-package' production networks based on local suppliers supplanted many of the assembly-oriented production networks initially set up by multinational manufacturers based in the developed economies (Bair and Gereffi, 2001). However, as the case studies of GVCs proliferated, and more industries and countries were incorporated into the analysis, it was clear that the dichotomous categories of buyer-driven and producer-driven commodity chains were too broad to capture the full complexity of the GVC governance structures that were emerging in the world.

In addressing this challenge, a new typology of GVC governance structures was elaborated, which sought both to describe and explain in a parsimonious way the significant differences between various types of value chains. Between the two extremes of classic markets and hierarchies (i.e., vertical integration), three network forms of governance were identified: modular, relational and captive (Gereffi *et al.*, 2005). In these network forms of GVC governance, the lead firm exercises varying



**Figure 1** Five types of global value chain governance.  
 Source: Gereffi, Humphrey and Sturgeon (2005: 89).

degrees of power through the coordination of suppliers without any direct ownership of the firms (Figure 1).

The five-fold typology of GVC governance published by Gereffi, Humphrey and Sturgeon (2005) has been very widely utilized and extensively cited, and it has become a mainstay of our conceptual toolkit on GVC governance. One of the reasons for the popularity of this approach is that it allows us to show quite easily how the form of governance can change as an industry evolves and matures, and indeed how governance patterns within an industry can vary from one stage or level of the chain to another. For example, in the offshore services value chain, all five types of GVC governance structures identified in the typology coexist, but their role in upgrading varies according to the characteristics of suppliers in developing countries, the requirements of lead firms and the kinds of international professional standards utilized in these chains (Fernandez-Stark *et al.*, 2011). The impact of multiple and shifting forms of GVC governance on the ability of local producers to upgrade within global chains has been particularly notable in the agrifood sector (Dolan and Humphrey, 2004; Gereffi *et al.*, 2009; Lee *et al.*, 2012), although the phenomenon exists in other industries as well (Gereffi and Fernandez-Stark, 2011; Gereffi *et al.*, 2011).

Today, we are entering a very different era. By the mid-2000s, the Washington Consensus development model was already beginning to unravel. US hegemony was eroding and the large emerging economies,

led by China and India, were altering the organization of production and how rules were made that affected the global economy. Consolidation was growing at both the country and supply chain levels in a number of hallmark global industries, such as apparel (Frederick and Gereffi, 2011; Staritz and Frederick, 2012), automobiles (Sturgeon *et al.*, 2008; Sturgeon and Van Biesebroeck, 2011) and electronics (Sturgeon and Kawakami, 2011; Brandt and Thun, 2011). When the global economic recession hit in 2008–09, this ended all prospects of a return to the old order. As the consumption of advanced industrial economies was curtailed, developing countries around the world began to look for alternatives to declining or stagnant northern markets. Large emerging economies turned inward and redirected production to their domestic markets and regional neighbors, and industrial policy has become more prominent.

In this context, the governance structures of GVCs are changing as well. The problem is no longer one of coordinating far-flung, fragmented and highly specialized global supply chains through triangular production networks orchestrated by East Asian intermediaries (Gereffi, 1999). The question increasingly posed by the transnational lead firms of GVCs is, 'How can we "rationalize" our supply chains from 300–500 suppliers to 25–30 suppliers?' The new suppliers are expected to be bigger, more capable and strategically located to access large markets. In this new environment, the extreme asymmetries of power in favor of lead firms that characterized the buyer-driven and producer-driven chains are shifting in many cases toward the top manufacturers located in emerging economies such as China, India, Brazil and Turkey. These countries have well-organized domestic supply bases and they have moved up the value chain to incorporate key input suppliers, as well as pre-production (design, R&D and purchasing) and post-production (logistics, marketing and branding) services.

Even in this post-Washington Consensus world, the established GVC governance structures from prior decades still exist, and they will continue to play an important role in shaping development agendas. However, new governance structures are being created that reflect the realities of GVCs today. This can be seen in the links between the organizational consolidation occurring within GVCs and the geographic concentration associated with the growing prominence of emerging economies as key economic and political actors.

After 1989, the breakup of the Soviet Union, the opening of China to international investment and trade, and the liberalization of India brought a number of very large economies onto the global stage, known initially as BRICs (Brazil, Russia, India and China).<sup>4</sup> This influenced the globalization process, as GVCs began to concentrate in these giant countries that offered seemingly inexhaustible pools of low-wage workers, capable manufacturers, abundant raw materials and sizeable domestic markets. Thus, China became the 'factory of the world,' India the world's 'back

office,' Brazil had a wealth of agricultural commodities, and Russia possessed enormous reserves of natural resources plus the military technologies linked to its role as a Cold War superpower. These emerging economies became major production centers worldwide, although their specific role in GVCs varied according to their openness to trade and foreign investment and other strategic considerations.

Since 2000, the shift in production from North to South in the global economy has accelerated and an expanding number of high-growth economies are playing prominent roles in a wide variety of industries as exporters and also new markets (Staritz *et al.*, 2011). This reflects multiple factors, including the growing significance of emerging economies, the decline in export orders due to the global economic crisis of 2008–09, and the explicit efforts of GVC lead firms to rationalize their supply chains in order to deal with smaller numbers of highly capable and strategically located suppliers.

One noteworthy consequence of global consolidation is the growth of big GVC producers and intermediaries, which tend to offset to some degree the power of global buyers. China became the world's dominant supplier of apparel, footwear and consumer electronics products, especially after the termination of the Multi-Fibre Arrangement (MFA) for apparel in 2005, and giant contract manufacturers and traders (such as Foxconn in electronics, Yue Yuen in footwear and Li & Fung in apparel) have considerable clout. India and Brazil have also generated their own manufacturing multinationals, such as Tata and Embraer.

Lead firms themselves are getting bigger through mergers, acquisitions and the decline of many rivals and, thereby, they are also increasing their global market shares.<sup>5</sup> At the same time, there is growing awareness of the strategic vulnerabilities of global supply chains in terms of the access of lead firms to critical raw material supplies (Lynn, 2005). This is particularly apparent in the agrifoods sector, where consumer goods firms such as Cadbury, Coca-Cola, Unilever and others are expanding their direct involvement in the procurement and sustainability of the raw material sides of their value chains, such as cocoa, coffee and sugar. This is also evident in autos and electronics, where concern over the availability of raw materials, such as lithium and coltan (Nathan and Sarkar, 2011), respectively, are introducing greater engagement between GVC lead firms and host country suppliers and governments. Thus, the long-term trend toward specialization and fragmentation in GVCs is being supplanted by a greater emphasis on strategic collaboration.

In summary, concentration is growing across different segments of GVCs, and this co-evolution of concentrated actors appears to have two main implications for GVC governance: in at least some cases, a shift of bargaining power toward large domestic producers vis-à-vis global buyers; and an affinity between geographic concentration in large

emerging economies such as China and India and organizational consolidation in GVCs. Novel patterns of industrial organization in emerging economies seem to fit this pattern, including China's supply chain cities, which integrate all aspects of GVCs from input suppliers to final goods manufacturers, and design centers to showrooms, for global buyers within specialized production locations (Gereffi, 2009); India's pioneering workforce development strategies to train local engineers and information technology specialists for global R&D hubs (Wadhwa *et al.*, 2008); and Brazil's 'industrial condominium' and 'modular consortium' concepts for automobile production that recruit GVC lead firms and their top suppliers to set up coordinated manufacturing facilities in the same factory complex, such as Volkswagen's truck and bus chassis plant in Resende (Neto and Pires, 2010).

### III. ECONOMIC UPGRADING AND THE NEW GEOGRAPHY OF GLOBAL PRODUCTION AND TRADE

While governance issues have attracted a good deal of attention among GVC scholars, the research on economic upgrading has been at least as important because many of the people who use the GVC framework have a very strong development focus. The GVC paradigm links scholarly research on globalization with the concerns of international organizations, policy makers and social activists who are trying to harness the potential gains of globalization to the pragmatic goals of economic growth, including more and better jobs and improved competitiveness for numerous regions, countries and social groups that feel increasingly vulnerable in the global economy. In both developed and developing countries, there is growing concern that the economic gains of participating in global supply chains do not necessarily translate into good jobs or stable employment and, in the worst case, economic upgrading may be linked to a significant deterioration of labor conditions and other forms of social downgrading. A key research question is: Under what conditions can participation in GVCs contribute to both economic and social upgrading in developing countries? (Barrientos *et al.*, 2011a, 2011b; Lee *et al.*, 2011).

The emergence of GVCs has redefined how we conceptualize economic development. For most early industrializers, including the US, Germany and Japan, industrialization meant building relatively complete supply chains at home. The core idea was that no nation could become globally competitive without a broad and deep industrial base, and thus considerable effort was dedicated to bring together the capital, technology and labor needed to create new industries. The ISI model of development, as previously noted, attempted to replicate the feat of these initial industrializers by enlisting transnational corporations in producer-driven GVCs

to build modern industries in relatively big developing countries, step by step, working from final products back to key components and subassemblies (such as engines in cars) under the watchful eye of interventionist developmental states.

The current era of export-oriented industrialization, which is sometimes called 'globalization's 2<sup>nd</sup> unbundling' (Baldwin, 2011), has opened up a radically new development path. Today, nations seek to industrialize by simply joining a supply chain to assemble final goods or make specialized inputs; they no longer try to build single-nation supply chains from scratch. For Baldwin, globalization's first unbundling was that railroads and steamships made it feasible to spatially separate production and consumption, and once the separation was feasible, scale economies and comparative advantage made it inevitable. The second unbundling was linked to the information and communication technology revolution, which allowed production stages that were previously performed in close proximity to be geographically dispersed in order to reduce production costs. The spatial scale of the second unbundling is not fixed, however; it could be regional or global, and thus the geographical configuration of GVCs can and does change over time.

In short, while industrialization under the EOI model became easier and faster (countries could just 'join' supply chains by performing specialized tasks, rather than 'build' them), it may also be less meaningful. If countries are only engaged in the simplest forms of EOI, such as assembling imported parts for overseas markets in export-processing zones, then they would develop neither the institutions, nor the know-how, nor the consumer markets needed to create and sustain entire industries. Indeed, for many of the small and least developed countries in the global economy, the gains associated with traditional forms of industrialization in terms of high-income jobs, forward and backward linkages, and wealth creation and innovation have been limited and uneven at best under the EOI model. Furthermore, there is growing concern that the extensive global outsourcing associated with globalization's second unbundling may have alarming implications for innovation and the international competitiveness of even the advanced industrial economies.<sup>6</sup>

The challenge of economic upgrading in GVCs, therefore, is precisely to identify the conditions under which developing as well as developed countries and firms can 'climb the value chain' from basic assembly activities using low-cost and unskilled labor to more advanced forms of 'full package' supply and integrated manufacturing. 'Economic upgrading' is defined as the process by which economic actors – firms and workers – move from low-value to relatively high-value activities in GVCs (Gereffi, 2005: 171). Within the GVC framework, four types of upgrading have been identified (Humphrey and Schmitz, 2002):

1. Product upgrading, or moving into more sophisticated product lines;
2. Process upgrading, which transforms inputs into outputs more efficiently by reorganizing the production system or introducing superior technology;
3. Functional upgrading, which entails acquiring new functions (or abandoning existing functions) to increase the overall skill content of the activities; and
4. Chain upgrading, in which firms move into new but often related industries.

The ability or inability of countries and firms to upgrade in these various ways has been the focal point of numerous GVC studies, but novel aspects related to the upgrading process have been introduced in the post-Washington Consensus era. First, there has been growing interest by the World Trade Organization (WTO), the Organisation for Economic Co-operation and Development (OECD) and other international organizations to establish new metrics of value-added trade that will clarify the extent to which successful export-oriented economies use domestic or imported inputs to fuel their growth. Second, in the wake of the 2008–09 global economic crisis, economic diversification through shifting end markets appears to be reconfiguring the growth opportunities for GVCs in ways that may shift their orientation toward the domestic markets of large emerging economies and toward more regionally oriented, rather than global, supply chains. We will consider each topic below.

### **A new metric for GVC analysis: Value-added trade**

In a world characterized by a predominance of GVCs, exports of final products are increasingly composed of imports of intermediate inputs. As supply chains go global, therefore, more intermediate goods are traded across borders, and more parts and components are imported for use in exports (Feenstra, 1998). In 2009, world exports of intermediate goods exceeded the combined export values of final and capital goods, representing 51 per cent of non-fuel merchandise exports (WTO and IDE-JETRO, 2011: 81). Governments and international organizations are taking notice of this emerging pattern of global trade, which is called a shift from ‘trade in goods’ to ‘trade in value added,’ ‘trade in tasks’ and ‘trade in capabilities’<sup>7</sup> (OECD, 2011; WTO and IDE-JETRO, 2011).

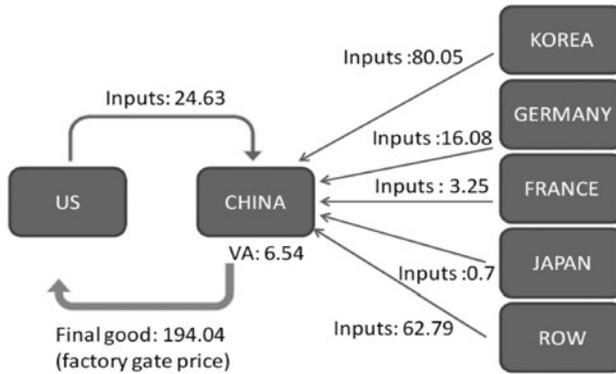
Emerging economies have clearly improved their position in GVCs, surging ahead of the advanced industrial countries in terms of export performance. Between 1995 and 2007, the global export market shares of the US and Japan fell by 3.8 and 3.7 percentage points, respectively, while China more than doubled its market share from 4 per cent in 1995 to 10.1

per cent in 2007, making it the world export leader (ahead of Germany, the US and Japan). South Korea, Mexico, Turkey, South Africa and the former transition countries in central Europe also increased their export market shares during this period (Beltramello *et al.*, 2012: 9–10). Potentially more impressive is the fact that emerging economies made their most significant gains in high- and medium-technology industries, which were previously the stronghold of OECD countries.<sup>8</sup> This phenomenon was mainly driven by China, whose share of exports of goods in high-tech industries soared by 13.5 percentage points during the period, 1995–2007, moving it ahead of the US as the world’s largest exporter of high-tech products (Beltramello *et al.*, 2012: 10).

While most intermediate goods are still traded within large regional economic blocks, such as the European Union, rather than across them (OECD, 2011), Asia’s linkages to the European Union and North America represented the two highest inter-regional import flows of intermediate goods in 2008. Asia imported more intermediate goods than it exported, indicating the region’s high level of integration within global supply chains (WTO and IDE-JETRO, 2011: 83–5). The geographical concentration of supply chains is also obvious at the country level. In 2000–08, China accounted for 67 per cent of the world’s processing exports,<sup>9</sup> followed by Mexico with 18 per cent (WTO and IDE-JETRO, 2011: 21).

China has benefited greatly from this form of participation in global supply chains. One-third of China’s imports are destined for export processing zones, which account for almost half of the country’s exports (WTO and IDE-JETRO, 2011: 21). China’s ‘supply chain cities’ are a perfect illustration of how China is turning scale-driven specialization into a persistent competitive advantage for the country. From foreign direct investment-driven clusters in Guangdong to single-product clusters in Zhejiang, China’s sheer size has allowed it to set up broad manufacturing clusters at the regional level. These specialized clusters are linked, on the one hand, to East Asian suppliers of key parts and components and, on the other hand, to global buyers to bring Chinese products to the world market (Gereffi, 2009).

Paradoxically, China does not create or capture most of the value generated through its value chain exports. In fact, as more types of intermediate goods are traded within global supply chains, the discrepancy is growing between where final goods are produced and exported and where value is created and captured. For example, Apple’s iPhones are entirely assembled in China by a Taiwanese contract manufacturer (Foxconn) and exported to the US. When a traditional measure is used, which assigns the gross export value of the product to the exporting country, the unit export value of iPhones from China is \$194.04. Of this, only \$24.63 is imported content from the US, meaning that every iPhone imported into the US results in a US balance of payments deficit of \$169.41 (Figure 2). However, this does not mean that China benefits from a trade surplus of \$169.41 for each



US trade balance with	CHINA	KOREA	GERMANY	FRANCE	JAPAN	ROW	WORLD
Gross	-169.41	0	0	0	0	0	-169.41
Value added	-6.54	-80.05	-16.08	-3.25	-0.7	-62.79	-169.41

**Figure 2** US bilateral trade balance with China for one unit of iPhone4 (US\$).  
*Source:* OECD (2011: 40).

iPhone it exports, since the value added in China is only \$6.54 per phone. The balance of China's iPhone production costs is made up of imports from Korea (\$80.05), Germany (\$16.08) and diverse other countries.<sup>10</sup>

These advances in GVC metrics related to value creation and value capture are a propitious development for policy-oriented research (OECD, 2011; WTO and IDE-JETRO, 2011; UNCTAD, 2013). As showcased by the iPhone study, existing trade statistics are unable to grasp the changing patterns of global production and trade. This is an area where GVC analysis and supply chain management research can be mutually beneficial.<sup>11</sup> Sophisticated value chain data disaggregated by business functions can complement existing country-level trade statistics and industry-level input-output data, providing a clear picture of who is gaining and losing in GVCs (Sturgeon and Gereffi, 2009). When combined with data on employment, they will greatly advance our understanding of both economic and social development opportunities in the global economy.

### Shifting end markets and the regionalization of GVCs

As world trade bounces back from the 2008–09 economic crises, emerging economies are becoming a main engine of world economic recovery. Tepid growth in the global North since the mid-1980s was slowed even further by the latest crisis, whereas demand is quickly growing in the global South, particularly in large emerging economies such as China, India and

Brazil (Staritz *et al.*, 2011). Over the period, 2005–10, the merchandise imports of the European Union and the US increased by 27 per cent and 14 per cent, respectively, while emerging economies expanded their merchandise imports much faster: Brazil (147 per cent), India (129 per cent), China (111 per cent) and South Africa (51 per cent). In 2010, 52 per cent of Asia's manufactured exports were destined for developing countries (WTO, 2011), indicating shifting end markets in the global economy.

The dramatic decline of world merchandise trade as a result of the economic crisis of 2008–09 has been described as 'the great trade collapse' (Baldwin, 2009). After more than six years of positive trade growth, all OECD countries registered a decline in exports and imports exceeding 10 per cent between 2008 and 2009, reaching a record negative growth of -37 per cent in April 2009 (Beltramello *et al.*, 2012: 27). The trade collapse was much larger in intermediates than in final consumption goods, which underscores the existence of a 'bullwhip' effect in GVCs – namely, lower demand for final consumption goods (downstream) is amplified in more dramatic demand reductions for intermediates that are upstream in the value chain (Altomonte *et al.*, 2012).

The 'great trade collapse' accelerated the shift in end markets from the North to the South in GVCs (Kaplinsky and Farooki, 2011) and it also encouraged lead firms from developing countries to regionalize their supply chains. In sub-Saharan Africa, for instance, the recent entry of South African clothing manufacturers in neighboring countries such as Lesotho and Swaziland has led to the rise of regional value chains driven by South African retailers. Compared to the US buyer-driven chain, these regional chains focus on shorter production runs and quick response with higher fashion content, and are based on direct relationships to large South African clothing retailers (Morris *et al.*, 2011). Similarly, South African supermarkets are expanding via regional supply chains and spearheading the rise of supermarkets across sub-Saharan Africa (Weatherspoon and Reardon, 2003).

The GVC literature shows that value chains oriented to different end markets often entail distinct upgrading opportunities (Palpacuer *et al.*, 2005; Gibbon, 2008). For example, the demand in lower-income countries for less sophisticated products with regard to quality and variety can have major upgrading implications (Kaplinsky *et al.*, 2011). On the one hand, lower entry barriers and less stringent product and process standards in emerging markets can facilitate the participation of developing country firms in global supply chains. They can engage in higher value-added activities, such as product development and design, which they would have little chance to do in the global chains. With more intimate knowledge of local and regional markets vis-à-vis multinational firms, they can generate 'frugal' innovations that are suitable to resource-poor environments (Clark *et al.*, 2009). On the other hand, solely focusing on low-income

markets could lock suppliers into slimmer margins and cutthroat competition. Their knowledge advantage in local markets often evaporates quickly when multinational firms catch up in learning the markets, as found in the Chinese mobile phone industry (Brandt and Thun, 2011).

#### IV. THE IMPACT OF GVC ANALYSIS ON THE DEVELOPMENT AGENDAS OF INTERNATIONAL DONORS

GVC studies are pervasive in academic publications that examine a wide range of global industries,<sup>12</sup> and the framework has been adopted by many of the major international donors and peak organizations concerned with economic development, including the World Bank (Webber and Labaste, 2009; Cattaneo *et al.*, 2010), the WTO (WTO and IDE-JETRO, 2011), the OECD (OECD, 2011; Beltramello *et al.*, 2012), the International Labour Organization (ILO) (Gereffi, 2006), the US Agency for International Development (USAID, 2012), the US International Trade Commission (USITC, 2011), the World Economic Forum (2012), and the UN Conference on Trade and Development (UNCTAD, 2013).

The international institutions that have provided the underpinning for the Washington Consensus, such as the World Bank, the IMF and the WTO, along with major bilateral donors, such as USAID and the UK's Department for International Development (DFID),<sup>13</sup> have embraced new heterodox models of development thinking, with an emphasis on sectoral analysis that allows macro issues such as international trade and investment to be linked more closely with the micro development issues of employment, gender dynamics and sustainable livelihoods (M4P, 2008). In addition, new alliances have emerged among diverse UN and other international agencies (such as the World Bank and the ILO) to promote joint research agendas that explore the links between economic and social upgrading, explicitly using the GVC framework (Cattaneo *et al.*, 2010; Barrientos *et al.*, 2011a).

Unlike most social science theories and paradigms, which have only a limited impact on specific international organizations and development policy settings, the GVC framework is unusual in that it has diffused very rapidly during the past decade and been adopted by a wide range of economic, social and cultural organizations, as well as action-oriented non-governmental organizations (NGOs) in the labor and environmental arenas. Table 1 identifies some of these international donor organizations and recent projects or studies that are informed by the GVC approach.

While this topic merits a far more detailed discussion, two aspects of the use of GVC analysis in these organizations will be touched on below. First, what are the similarities and differences in how GVC analysis is used in these organizations? For example, most of these international donors have development programs that emphasize pro-poor growth, the protection of

**Table 1** Use of Global Value Chain Analysis in Selected International Organizations

Organization	Illustrative GVC Publications	Content Description	2012						
			GVC	LED	Clusters	PSD	TVET	Poverty	Micro
World Bank	Cattaneo et al. (2010).	This book uses a GVC perspective to analyze the impact of the global financial crisis of 2008-09 on global trade, production and demand in several sectors. Particular attention is paid to opportunities for developing countries to enter into GVCs post-crisis.	x		x	x	x	x	x
IDB	Flores and Vaillant (2011).	This paper compares the upgrading performance of Latin American countries in terms of export sophistication in a variety of industries.	x	x	x	x		x	x
DFID	Capturing the Gains (2012).	This three-year research project brings together an international network of experts to gain information on the employment and wellbeing of workers and small producers in GVCs.	x		x	x		x	
USAID	Value Chain Development Wiki (2012).	This website gathers information from various projects and draws on research conducted under USAID's Microenterprise Development Team to codify good practice in value chain development, with an eye to linking SMEs into global, national and local value chains.	x		x	x		x	x
GTZ/GIZ	Will (2011).	This manual considers information from GTZ-funded pilot projects in developing countries in order to draw lessons about the various processes by which smallholders can receive GLOBALGAP certification, which is required by many European food retailers.	x	x		x		x	x

WTO	WTO (2011).	This publication uses a GVC framework to consider changing trade patterns in East Asia. It proposes a new trade statistic - trade in value added - to complement traditional trade statistics.	x			
OECD	OECD (2011).	This report to the OECD Working Party on Globalization of Industry and the Committee on Innovation, Industry and Entrepreneurship uses the GVC framework to provide policy advice to OECD countries with a focus on maintaining competitiveness and identifying new sources of growth.	x	x	x	
ILO	Herr and Muzira (2009).	This guide for development practitioners, governments and private actors outlines strategies for upgrading within value chains while maintaining or improving labor standards for workers.	x	x	x	x

**Notes:**

**GVC:** The Global Value Chain framework focuses on the placement of firms and localities within the global organization of trade and production within particular sectors or industries.

**LED:** The Local Economic Development framework focuses on initiatives geared towards the local or sub-national public sector as an enabler or instigator of economic development.

**Clusters:** The Cluster framework focuses on initiatives geared towards the local or sub-national private sector.

**PSD:** Private Sector Development strategies focus on the concept of "making markets work."

**TVEI:** Technical and Vocational Education and Training strategies focus on improving the quality and quantity of workers' marketable skills through vocational training initiatives.

**Poverty:** Poverty Alleviation programs are those that seek the reduction, alleviation or eradication of poverty.

**Micro:** Microfinance programs make very small "microloans" to entrepreneurs or households that are otherwise unable to access financial markets under favorable terms.

small and medium enterprises and local stakeholders, and a private sector-oriented, market-led model. However, they differ in other respects, such as the weight given to economic growth in relation to poverty reduction as well as geographic regions and sectors of particular interest. Second, what are the other development models or frameworks that are being used in each organization and to what degree are these complementary or antagonistic with the GVC approach? One of the key reasons for the turn to GVC and GPN approaches may be that their emphasis on global industries offers a meso-level, sectoral and actor-oriented approach to the global economy, which provides multi-scalar options to link global and local levels of analysis, in contrast to macro models, which focus on general economic trends and broad policy prescriptions, or the micro and localized approach of clusters, which aren't connected to the broader structures at the national, regional or global levels.

Value chain analysis is used widely today as an instrument of private sector development by virtually all major bilateral and multilateral donor agencies. Altenburg (2007) highlights two main reasons for the increasing popularity of the GVC approach within the international donor community since the end of the 1990s: first, the accumulating evidence of a link between economic growth driven by the private sector and poverty reduction; and second, the fact that global integration of trade and production through GVCs transmits the pressures of global competition to domestic markets in developing economies, leaving less space for local firms to design, produce and market on their own. As Altenburg (2007: 04) puts it, 'The question is thus not *if*, but *how* to integrate in value chains in a way that allows for incorporation of a growing number of the workforce and increasing levels of productivity and outcomes. This calls for a balanced approach which takes both competitiveness and equity issues into account.'

There is no simple way to connect GVC analysis to private sector development, since the firms in a value chain range from transnational corporations to microenterprises, and the institutional context and geographic scope of value chains vary enormously. In order to provide some guidance for interventions by donors, Humphrey and Navas-Alemán (2010) distinguish four different objectives of donor interventions: strengthening the weakest link to address potential bottlenecks; improving flows of knowledge and resources to make all firms in the chain more productive; working on specific links between firms to improve efficiency; and creating new or alternate links in the chain to promote diversified outcomes.

An alternative to this bottom-up approach to value chain development is targeting lead firms rather than local suppliers – i.e., working with the strongest link in the chain, rather than the weakest. This lead-firm-centered, top-down GVC approach has been used effectively for very different purposes, whether it be the World Bank's revitalized 'Aid for Trade' initiative, which sees the private sector as the engine that powers

global trade and urges GVC lead firms to play a greater role in building trade capacity in developing countries (World Bank, 2011), or the confrontational stance of NGOs such as Oxfam (2004), which mobilizes international campaigns against lead firms to improve the conditions of women workers in global supply chains.

The reality is that most bilateral and multilateral donors use GVC analysis in combination with other diagnostic tools they have tried in the past (Table 1) to address a variety of broad development goals, including poverty reduction, economic growth, employment creation and income generation, enterprise development, and environmental stability and cleaner production (UNIDO, 2011). One of the most comprehensive reviews of the approaches of seven UN agencies to value chain development concludes, however, that there is considerable ‘fuzziness’ about how the concept is adopted: ‘... [value chain]-related activities sometimes seem to be rather the outcome of “re-labelling” former private sector development interventions. In other cases, activities that could clearly be subsumed under the value chain approach are not labeled accordingly ... These observed shortcomings in knowledge management, transparency and the lack of defined unique selling positions make inter-agency cooperation in [value chain] promotion difficult’ (Stamm and von Drachenfels, 2011: 30). In short, much of the literature that uses the GVC moniker misses the point and doesn’t apply the framework consistently.

The widespread adoption of the GVC framework by international donors during the past decade represents a remarkable convergence around a single paradigm, notwithstanding the differing emphases across UN and bilateral agencies. Skeptics might argue that the neoliberal fundamentals of the Washington Consensus model of development remain entrenched in many of these organizations (Nielsen, 2013), even if GVC analysis is rooted in assumptions that are highly critical of the neoliberal paradigm (see Gereffi and Korzeniewicz, 1994; Kaplinsky, 2005; Bair, 2009; Hamilton and Gereffi, 2009; Sturgeon, 2009; Lee, 2010). The counterargument made throughout this article is that the GVC perspective highlights the power dynamics in global industries, embodied in the role of lead firms and the institutions that underpin the global economic order, and this introduces broader and more heterodox views of development that challenge the mainstream.

During the past decade, the global economy has seen a transfer of production, technological capabilities, growth potential, consumption and political clout from the North to the South. One of the major reasons for the popularity of the GVC framework is that it allows us to analyze many of these shifts with greater precision than prior paradigms. While interpretations of the direction and impact of these trends will vary, the contributions of GVC analysis should not be discounted because the donor organizations have multiple and sometimes discordant agendas. Furthermore, as more

international organizations employ the GVC paradigm, its methodological rigor and policy relevance are likely to increase.

## V. CONCLUSIONS

What will replace the globalization model? This is the question posed in a recent newspaper article, which contends: 'The globalization model of the past 30 years is cracking up. And there appears to be no new model to replace it' (Smick, 2012). While we concur that globalization as we know it is undergoing a series of fundamental shifts, many elements of the future system are there for us to see. The international competitiveness of advanced industrial economies has gradually been eroded, at least in terms of traditional measures of export performance. Emerging economies now play a more prominent role in international trade, and they have expanded their export market shares of high technology and medium technology products, with China playing a particularly prominent role (Beltramello *et al.*, 2012). The emergence of GVCs cautions against an overreliance on simple export measures of competitiveness, however, and this paper has sought to unpack various insights from the GVC perspective to better understand some of the new features of the post-Washington Consensus global economy.

The Washington Consensus model of development, which held sway from the mid-1980s through the mid-2000s, is a nation-state-centered view of the global economy, in which countries are the primary units of analysis in international production and trade. The main topics of debate involved the extent to which economic policies were 'market-friendly' or overly interventionist (World Bank, 1993), and the nature of the stabilization programs and market access agreements that would be imposed on recalcitrant developing economies by the IMF, the World Bank and other international financial and trade institutions to bring them in line with the dominant model.

The GVC framework fundamentally challenges this view of the global economy and it provides a different interpretation of the key drivers of change over the past four decades. The sector-based approach of the GVC perspective is premised on the structural diversity of global industries, which are major entry points for developing nations in the global economy. The major analytical categories used to examine global value chains include:

1. The role of *lead firms* in setting performance requirements and standards that condition entry and mobility within GVCs;
2. The evolving nature of *production and trade networks* that link large and small suppliers to the global economy as well as to domestic economies;
3. Trajectories of social and economic *upgrading and downgrading*, and patterns of *access and exclusion*, which help describe the connections

between the development of firms and countries within the international system;

4. Multiple *governance structures* (international and domestic, public and private, chain-based and civic) that link different components of the system together;
5. The shift from trade in goods to *trade in value added, tasks and business functions* in looking at key economic activities related to upgrading and competitiveness; and
6. *Interventions and pressure points* that allow for change in this system.

Economic globalization is a byproduct of international production and trade networks organized by transnational firms and it is embedded in various kinds of regulation, including rules of the game established by international institutions, national government policies, and varied forms of private governance used by non-state actors to manage activities in GVCs (Mayer and Gereffi, 2010). One potential outcome of the current situation is that public governance will be called upon to play a stronger role in supplementing and reinforcing corporate codes of conduct, product certifications, process standards and other voluntary, non-governmental types of private governance that have proliferated in the last two decades, and that multi-stakeholder initiatives involving both public and private actors will arise to deal with collective action problems.

While the contours of a new international economic order are still in flux, several features are already having an impact on development agendas. The most dynamic growth poles in the global economy are constituted by an expanding number of rising powers that combine relatively large domestic markets, skilled workforces, capable producers and a push toward indigenous innovation. These include the original BRIC countries as well as South Korea, Mexico, Turkey and Indonesia, among others (O'Neill, 2011). As the EOI development strategy is replaced by more inward-looking approaches focusing on domestic and regional markets, industrial policy in the leading economies of the South is likely to become more significant. While policy priorities at the macro level of the global economy seek new ways to channel trade and investment patterns toward more robust employment outcomes (OECD, 2012), the challenge will be to link economic upgrading and social upgrading in terms of both material conditions of work and the quantity and quality of jobs created in contemporary GVCs (Barrientos *et al.*, 2011a, 2011b).

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## NOTES

- 1 For recent reviews of GCC and GVC literature, see Bair (2009), Lee (2010), and Gereffi and Lee (2012).
- 2 In the original 1994 article that introduced the concepts of producer-driven and buyer-driven GCCs, there is a section on 'The Role of State Policies in Global Commodity Chains,' which makes the link between GCCs and development strategies very clear: 'An important affinity exists between the ISI and EOI strategies of national development and the structure of commodity chains. Import substitution occurs in the same kinds of capital- and technology-intensive industries represented by producer-driven commodity chains . . . In addition, the main economic agents in both cases are [transnational corporations] and state-owned enterprises. Export-oriented industrialization, on the other hand, is channeled through buyer-driven commodity chains where production in labor-intensive industries is concentrated in small to medium-sized private domestic firms located mainly in the Third World. Historically, the export-oriented development strategy of the East Asian [newly industrializing countries] and buyer-driven commodity chains emerged together in the early 1970s, suggesting a close connection between the success of EOI and the development of new forms of organizational integration in buyer-driven industrial networks' (Gereffi, 1994: 100).
- 3 Knowing if the lead firm in a chain is a buyer or a producer can help to determine the most likely upgrading opportunities for suppliers. For example, buyer-driven chains tend to provide more opportunities to their suppliers in product and functional upgrading because the core competence of the buyers is in marketing and branding, not production, whereas lead firms in producer-driven chains often require varied forms of process upgrading and international certifications among their suppliers due to strict quality and performance standards that affect the entire chain.
- 4 Jim O'Neill (2011), the Goldman Sachs executive who coined the catchy acronym BRIC in 2001 to refer to Brazil, Russia, India and China, now argues that there is a much larger number of 'growth economies' (BRICs plus 11) that fall into this category. These include the MIST nations (Mexico, Indonesia, South Korea and Turkey), and other periodic high-performers such as Bangladesh, Egypt, Pakistan, the Philippines, and Vietnam (Martin, 2012). The original BRIC classification was extended to BRICS with the addition of South Africa in 2010. For purposes of this paper, the origin of these acronyms is less important than the collective effect of this set of so-called emerging economies, which are reshaping both supply and demand in many GVCs.
- 5 Li & Fung, the largest trading company in the world, has around 30,000 suppliers globally and operates in 40 countries (Fung, 2011).
- 6 Pisano and Shih (2009), for example, argue that the US is in danger of losing its 'industrial commons,' which includes not just suppliers of advanced materials, production equipment and components, but also R&D know-how, engineering and processing skills, and a wide range of other manufacturing competencies. Because manufacturing is closely tied to the capacity for innovation, offshore manufacturing can undermine the capabilities of the US economy to remain competitive in existing high-tech industries, which often depend in critical ways on the industrial commons of mature sectors, and also impede its ability to move into new industries. This helps explain why Apple does not manufacture its iPhone in the US. While labor costs are obviously much lower and a certain class of skilled workers more abundant in China, where all US-sold iPhones are assembled, perhaps the biggest limitation is that the vast majority

- of suppliers needed to make the hundreds of parts that go into every iPhone are located in East Asia, and not North America. This could hinder the ability of US companies to remain innovative (see Duhigg and Bradsher, 2012; Shih, 2009; Pisano and Shih, 2012).
- 7 There are conceptual difficulties, however, in using individual tasks or capabilities as a unit of analysis in determining how easy it is to fragment and relocate work in GVCs. It is more likely that larger sets of activities associated with 'business functions' will be outsourced, rather than individual jobs and capabilities (Sturgeon and Gereffi, 2009).
  - 8 Since these figures refer to gross exports, we need more detailed information about the degree of domestic or foreign value added to assess the extent to which these numbers reflect the local assembly of high tech imports or significant national technology content.
  - 9 Processing exports refer to exports that use duty-free imports for subsequent processing and re-exports.
  - 10 This is not an uncommon pattern in China. Domestic content accounts for only about half of China's manufacturing exports and it is even smaller (18 per cent) in its processing exports, mostly done by foreign-owned firms (Koopman *et al.*, 2008).
  - 11 Note that the iPhone study and other similar studies (e.g., Linden *et al.*, 2009; Dedrick *et al.*, 2010) are based on tear-down analysis generated by supply chain management consultancies such as iSuppli.
  - 12 Around 680 publications and 570 authors were listed on the Global Value Chains website (<http://www.globalvaluechains.org>) as of 20 February 2013.
  - 13 DFID changed the name of its bilateral economic aid program to the UK Agency for International Development (UKaid) in 2012.

## NOTES ON CONTRIBUTOR

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