

Industrial policy in the era of vertically specialized industrialization

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5.1 Introduction

The expansion of global value chains (GVCs) since the early 1990s has played an important role in shifting the pattern of international trade and altering the process of industrialization and de-industrialization. Sometimes called global commodity chains or global production networks, GVCs are defined by Sturgeon (2001) as “the sequence of productive (i.e. value added) activities leading to and supporting end use”. Trade in intermediates rather than in final goods and services has grown rapidly and thus the level of vertical specialization – the import content of exports – has increased in almost every country in the world. From South Africa’s auto parts sector to Cambodia’s clothing industry to Kenya’s cut-flower producers to India’s business services firms, GVCs include a wide variety of traded goods and services production. Services, including financial services, are often produced within global production networks, and services such as logistics are an important aspect of many global networks of goods production.¹

As a result of these shifts, economic development now often occurs as a process of “industrial upgrading” within GVCs. If economic development requires a change in the structure of production, involving industrial transformation and higher value added activity, and if production is increasingly organized within GVCs, then development must occur within such chains. Economic upgrading in GVCs – whether it is moving into higher value added functions within the

¹ See Cattaneo, Gereffi and Staritz (2010), and Staritz, Gereffi and Cattaneo (2011) for a sampling of the broad range of industries covered by recent GVC studies.

same chain or jumping into more technologically sophisticated but related value chains – is now recognized as an important channel of industrialization (Humphrey and Schmitz, 2002).

Considerable research has identified these shifts in trade and economic development resulting from the expansion of GVCs, and the topic is of increasing interest to international organizations, including the World Trade Organization (WTO), the World Bank, the International Labour Organization (ILO), the Organisation for Economic Co-operation and Development (OECD), the United Nations Industrial Development Organization (UNIDO) and the United Nations Commission on Trade and Development (UNCTAD).² The GVC approach helps explain structural shifts in the global economy, such as the boom in intermediate goods trade, the heightened volatility of world trade, the growing number of regional trade agreements, and the misleading nature of published statistics on bilateral and sectoral trade balances (OECD, 2011). But what does all this mean for the role of the State in economic development?

Twentieth-century debates over the merits of industrial policy as a strategy for economic development occurred prior to the spread of these complex international production networks. Industrial policy viewed through the lens of GVCs will thus differ from traditional arguments for industrial policy. The GVC approach puts emphasis on firms rather than States, leaving the role of the State less evident than it was in earlier phases of late industrialization. In this chapter we advance the discussion of industrial policy in several ways. First, we make the case that the prominence of GVCs alters the terrain of action for developmental states. We begin by explaining why the industrial policy strategies of earlier eras, in particular import substitution and export orientation, do not really fit the contemporary global economy. The key element is the role of vertical specialization (VS), defined as the import content of exports. Vertical specialization is generally high when production is organized in GVCs that span multiple countries, which means that intra-industry trade in intermediate goods becomes far more significant.

The expansion of GVCs is closely linked to the growth of intermediate goods trade, but the implications for developing economies depend on the kind of GVCs

² The WTO's "Made in the World Initiative" and Director-General Pascal Lamy's statement in *The Financial Times* in 2011 that "'Made in China' doesn't mean anything anymore" are indicative of the considerable interest in GVCs and vertical specialization at the major international organizations dealing with international trade and economic development. In addition to the publication of the joint WTO–OECD trade in value added data set (OECD, 2013), the issue has received attention of the WTO (Escalaith, Lindenberg and Miroudot, 2010), the OECD (Miroudot and Ragoussis, 2009), the World Bank (Cattaneo, Gereffi and Staritz, 2010), UNIDO (Sturgeon and Memedovic, 2011), the ILO (Milberg, 2004), and the US International Trade Commission (Dean, Fung and Wang, 2007), and this has greatly improved our understanding of the magnitudes and trends involved.

involved. In the producer-driven chains typical of capital- and technology-intensive industries like automobiles, electronics and pharmaceuticals, for example, multinational corporations (MNCs) controlled the entire production process, and intra-firm trade was predominant. Foreign direct investment (FDI) in these producer-driven chains was closely tied to the import substitution industrialization (ISI) policies that typified the 1960s and 1970s in Latin America and selected countries in Asia and Africa.

It was the emergence of buyer-driven GVCs organized initially by major retailers and global brands from the United States and Europe, however, that ushered in the shift from ISI to export-oriented industrialization (EOI) in East Asia and parts of Latin America, beginning in the mid-1960s and accelerating through the 1990s (Gereffi, 1995 and 2001). The distinguishing feature of these buyer-driven chains was that they were controlled by commercial capital (retailers and marketers such as Walmart, Nike and Starbucks), not industrial MNCs, and thus international subcontracting networks replaced FDI to a significant degree. This meant that production was not only carried out in developing economies, but most of the suppliers were domestically owned firms engaged in assembly production and later in full-package (called original equipment manufacturer, or OEM) production, which relied to a large degree on imported inputs. One of the major upgrading dynamics in buyer-driven chains was for developing countries to try to capture more value by making more inputs locally rather than importing them, and by moving up the value chain from production into design and branding, called ODM (own design manufacturing) and OBM (own brand manufacturing) in the literature (Gereffi, 1999).

As economic development has increasingly occurred within the context of GVCs, it has taken the form of upgrading into higher value added functions within a given chain or into new chains that generate more value added. In this chapter we refer to this as “vertically specialized industrialization”, or VSI. With VSI, the focus is less on the national economy and more on linkages to a set of value chain actors. There are both empirical and policy distinctions between EOI and VSI. With EOI, export-oriented economies such as Hong Kong (China), Singapore, the People’s Republic of China, and the Republic of Korea in East Asia, as well as Mexico and Central American economies in Latin America, based their growth on cultivating export ties with big buyers in Western markets. These “demand-responsive economies” focused on moving multiple consumer goods through GVCs and upgrading various products, processes and functions along the chain (Hamilton and Gereffi, 2009; Humphrey and Schmitz, 2002).

Whereas EOI was typically focused on exports to advanced industrial economies in the West, VSI relies to a much higher degree on more extensive ties with

the GVC supply base already established in developing economies. Export production that is based on VSI involves a high degree of South–South trade (the most significant source of China’s imports for its iPhone exports is the Republic of Korea (OECD, 2011)). Following the deep and prolonged recession of 2008–10, many countries are shifting their export markets from North to South in the global economy (Staritz, Gereffi and Cattaneo, 2011), and emerging economies are turning inward to highlight production for domestic markets, and using more regionally organized GVCs (Gereffi, forthcoming). While VSI has highlighted the import content of exports as an industrialization strategy, unlike EOI it can also be utilized to promote GVC policies geared to upgrading for regional and domestic markets.

In promoting the capacity and activity of domestic firms, government strategy must take into account the interests and power of lead firms in GVCs, international (and increasingly regional) networks of competing and cooperating supplier firms and international non-governmental organizations (NGOs). Because lead firms are often able to induce greater competition among suppliers in different countries, States may have less leverage than previously in spurring innovation and productivity growth among domestic (supplier) firms. The broad spread of GVCs implies an industrial policy focus on regulating links to the global economy – especially trade, FDI, and exchange rates – much more than was the case under ISI policies, which focused on building national capabilities, but also in a different way than had been the case in the EOI regimes, where the focus was final goods exports (Baldwin, 2011).

Accordingly, we place the issue of industrial policy into a general framework related to the internationalization of production and thus provide a categorization of the policy issues being framed by different sets of countries, including advanced industrial economies, large emerging economies, and smaller economies. Low-income and smaller countries generally seek to upgrade by reducing vertical specialization and moving into higher value added activities, or by capturing more value added through building more sophisticated functions in the chain. Middle-income countries face the difficulty of moving into more technologically sophisticated activities that might allow them to establish name recognition in existing products or establish new product lines and new brands. Failure to overcome this obstacle may, to some extent, account for the middle-income country “trap” (Jankowska, Nagengast and Perea, 2012; Ohno, 2009). High-income countries face the challenge that upgrading typically involves focusing on “core competences”, usually such functions as marketing, product development and finance. These are high value added functions with low employment elasticities. This is likely to be the result of the “de-industrialization” process that high-income

countries must go through³ (Rowthorn and Wells, 1987) but could, if poorly managed, lead to persistently high unemployment with the associated policy challenges of demand management and skills development.

Third, we propose a more comprehensive strategy of how ISI, EOI and VSI fit together as a new framework for talking about policy. This is highlighted in sections 5.3 and 5.4 of the chapter, where we show that the policies of countries toward traded goods change significantly when VSI is prominent. Whereas under ISI, developing countries tried to restrict imports and under EOI, developing economies focused on promoting exports, with VSI the main emphasis is on how to use traded intermediates to capture more value in GVCs. Since imported intermediate goods are used in export products under VSI, moving up GVCs implies first allowing needed intermediate goods imports to flow into the country. However, economic upgrading entails that countries also try to encourage the domestic production of these same items, often initially by foreign-owned companies and eventually by domestic firms.

Fourth, we look more closely at recent shifts occurring with the financial crisis of 2008 and the end of broad-based support for the Washington Consensus policies of neoliberalism. We argue that there has been a shift in the composition of global final demand, with buyer-driven GVCs led by firms in industrialized countries shrinking in importance, and with developing countries playing a larger role, in particular the large emerging markets of China and India. Related to this shift in the composition of final demand is a recognition of the relative efficiency of regional supply networks, in part the result of decades of production networks led by MNCs at the regional level, for example in East Asia, North America, Western and Eastern Europe. Changes in the conditions of global demand and supply are likely to frame the industrial policy choices as the process of VSI evolves.

We conclude the chapter with a summary of five industrial policy challenges posed by VSI in comparison with ISI and EOI. Not coincidentally, GVCs emerged in a period of continued deregulation and liberalization, as first noted by Feenstra (1998). Nonetheless, industrialization within the context of GVCs presents some of the old dilemmas of industrial policy and raises some new ones. For example, the rise of GVCs reflects the importance of market access as defined by “buyer” and “producer” lead firms, but the process of upgrading runs up against the same

³ This kind of de-industrialization occurs because productivity growth in the manufacturing sector is so rapid that, despite increasing output, employment in this sector is reduced, either absolutely or as a share of total employment. However, this does not automatically lead to unemployment, because with higher incomes, new jobs are created in the service sector on a scale sufficient to absorb any workers displaced from manufacturing. Paradoxically, this kind of de-industrialization is a symptom of economic success (Rowthorn and Wells, 1987, p. 5).

obstacles of market failure as identified in earlier eras of industrialization, having to do with incomplete capital markets or with the uncertainty of cost structures under a new production structure.⁴ At high levels of vertical specialization, trade protectionism can hurt domestic firms when their exports rely heavily on imported inputs. On the other hand, upgrading within GVCs requires some “defiance” of comparative advantage, typically encouraged by policy intervention (Chang, 2002).

5.2 Trade in intermediates, vertical specialization and upgrading

The twentieth century saw two waves of industrial policy. In the middle of the century, Latin American and South Asian developing countries adopted ISI policies in order to shift out of commodity production (characterized by competitive product and factor markets and a low income elasticity of global demand) and into production of manufactures. The logic, following the ideas of Prebisch (1954) and Singer (1960), was to boost the terms of trade to raise the income elasticity of demand for exports and to raise the productivity of domestic production.

ISI was always contentious because of its heavy reliance on the State. ISI regimes were criticized for discouraging innovation and encouraging rent-seeking (Shapiro, 2007). Nonetheless, ISI was a successful strategy for many countries for a number of decades, generating long periods of high growth in some cases.⁵

But with the Latin American debt crisis and the subsequent adoption of market-oriented structural adjustment, industrialization efforts shifted focus to global markets and specifically to export growth.⁶ EOI slowly became the accepted Latin American neoliberal development strategy (Dussel Peters, 2000).

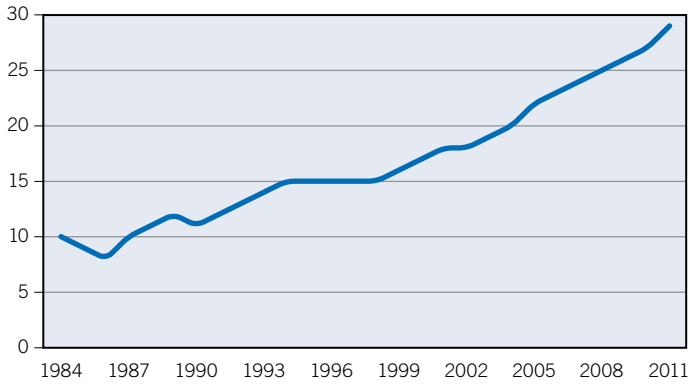
East Asian countries had moved to export-oriented growth earlier – in the late 1960s and 1970s – in part as a result of the emergence of buyer-led GVCs. These were large retailers and brand name firms that found they could lower costs and raise return on investment by outsourcing manufacturing to East Asia, beginning with Japan, but then moving to the Republic of Korea and Taiwan (China). These trade relations were generally not about intra-firm trade since they often did not involve FDI. Domestically owned supplier firms in East Asia were rapidly building capacity to manufacture and export. East Asian success involved strategic

⁴ On capital market failure, see Haque (2007). On costing information, see Rodrik (2004). For an overview, see Shapiro (2007).

⁵ See Bénétrix, O'Rourke and Williamson (2012).

⁶ See Dussel Peters (2000) and Jenkins (2012) for a review of the literature on structural adjustment in Latin America.

Figure 5.1 Developing countries' share of world exports of manufacturing goods, 1984–2010 (percentages)



Source: World Databank, World Bank Group.

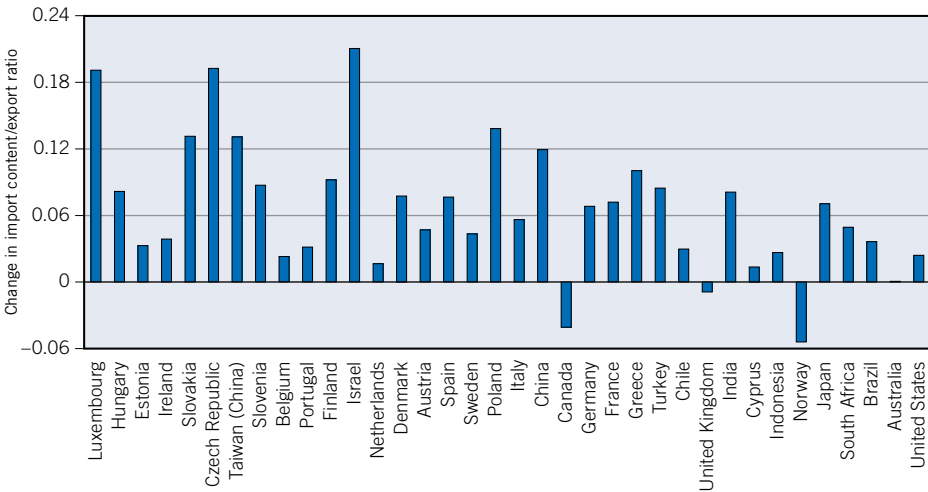
state interventions through the use of targeted credit and export subsidies, strict limits on inward FDI, and import protection to expand output, productivity, export competitiveness, exports and economic growth (Amsden, 1989; Evans, 1995; Wade, 1990). East Asian industrialization typically involved the strengthening of large, often conglomerate, domestic firms with close ties to domestic sources of finance and the developmental state.

Thus the new phase of industrial policy – with a GVC orientation – did not arrive suddenly with the crisis of 2008. It was instead the result of a long-term trend towards greater reliance by large corporations in industrialized countries on domestic suppliers in developing countries, that is, on the expansion of global production networks, and on the gradual development of manufacturing capacity among developing country supplier firms. As figure 5.1 shows, developing countries successfully expanded their share of world exports of manufactures over the past 25 years, just as Prebisch and Singer recommended.

Global production networks started to become prominent in trade and development in the 1990s, beginning with China's entry into the world trade and production system. And in the early 2000s, as the dotcom boom faltered, computer and consumer electronics companies began offshoring their production facilities to low-cost locations.⁷ The share of world exports from developing countries continued to grow throughout this period (figure 5.1), but their composition also started to change as imports of intermediates increased steadily in the 1990s and accelerated in the 2000s, accounting for over 50 per cent of world trade for

⁷ Friedman (2005) gives some anecdotal support.

Figure 5.2 Change in vertical specialization, 1995–2005



Source: OECD STAN Database.

that entire period, according to data from the UN Comtrade database in Broad Economic Categories.

As Sturgeon and Memedovic (2011) note, intermediates’ share of world trade actually fell slightly in the 2000s, but that slight decline (leaving the share still above 50 per cent) obscures some important details. First, the share of generic (commodity-type) products in intermediates fell as more specialized intermediate goods began to account for a growing share of trade in intermediates. Second, the share of manufactured intermediates trade from developing countries increased significantly over this period, rising to 35.2 per cent in 2006 from 25.5 per cent in 1992 (ibid., p. 14). Third, China is not the only country to experience a significant increase in exports of intermediate goods. China is the dominant developing country for exports of manufactured intermediate goods, with 8.6 per cent

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