

Industrial policy in the era of global value chains: Towards a developmentalist framework drawing on the industrialisation experiences of South Korea and Taiwan

Jostein Hauge 

Institute for Manufacturing, University of Cambridge, Cambridge, UK

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1 | INTRODUCTION: THE “GVC PERSPECTIVE” AND THE “DEVELOPMENTALIST PERSPECTIVE”

Since the early 1990s, a globalisation of production has taken place, driven by falling transport costs, advances in information and communication technology, and lower trade and investment barriers. From 1990 to 2017, the world's trade dependence ratio¹ increased from 19.5% to 28.9% (see Figure 1 for more details on trends in world trade), and world inflows of foreign direct investment (FDI) as share of world GDP increased from 0.9% to 2.8% (World Development Indicators, 2019). The increase in FDI inflows has mostly taken place in developing countries,² whose share of world FDI inflows surged from 17% to 46% between 1990 and 2017 (see Figure 2, which depicts the trend in absolute numbers as well). This growth in international trade and offshoring is underpinned especially by the fragmentation of production processes and the dispersion of tasks and activities within them. This has led to complex and borderless business networks and production systems, popularly referred to as global value chains (GVCs).

¹This is the average of imports and exports of goods and services, as share of GDP.

²The term “developing countries” refers to those countries that face the challenge of late industrialisation (a concept introduced by Alice Amsden), that is those countries that face the challenge of catching up to the global technological frontier. The terms “developing countries,” “catch-up economies” and “late industrialisers” will be used somewhat interchangeably in this paper, but they essentially carry the same meaning. The important note to make is that this paper focuses on industrial policy in developing countries, as opposed to developed countries, as developing countries participate in GVCs and attract foreign investments in different ways and for different purposes than developed countries.

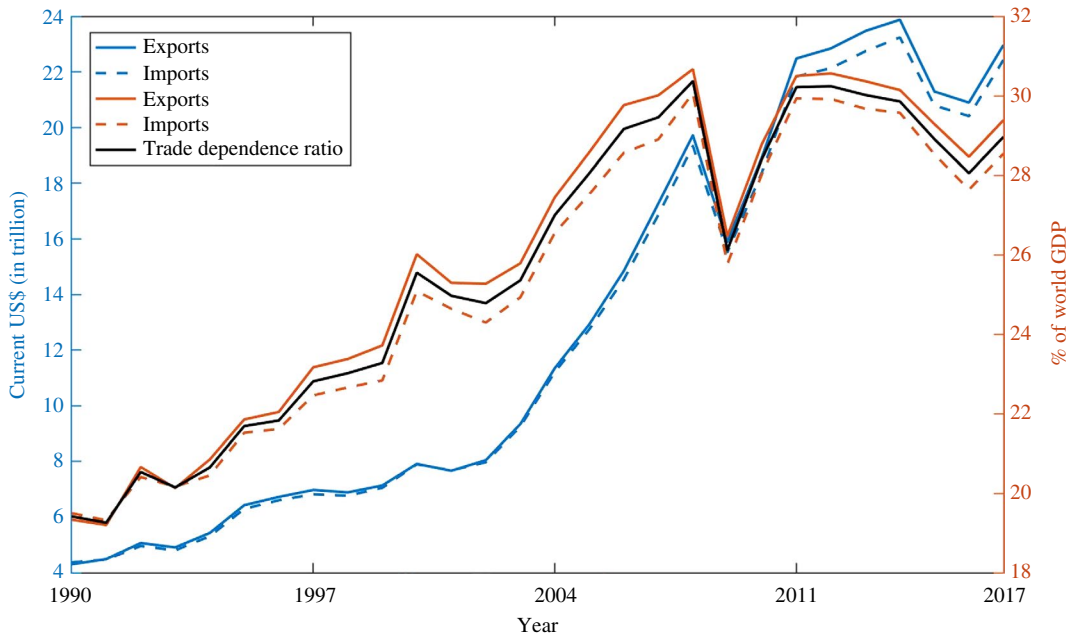


FIGURE 1 World exports and imports, 1990–2017

Data source: World Development Indicators (2019).

The expansion of GVCs has invigorated debates on industrial policy.³ In particular, scholars that study development and industrialisation issues through the framework of GVCs have in recent years started to show a keen interest in if and how industrial policy in developing countries—specifically those industrial policies that are oriented towards GVC participation and international trade—has to change in this era of GVC expansion.⁴

Many of these scholars argue for a new way of thinking about and formulating industrial policy. They question whether “traditional” industrial policies, like those implemented by the Asian “tigers,”⁵ can serve as a useful inspiration for today's developing countries. Milberg, Jiang, and Gereffi (2014, p. 152) state that:

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

³This paper will stick to a definition of industrial policy as detailed in Chang, Hauge, and Irfan (2016, 26), which is, “A policy that deliberately favours particular industries—or even firms—over others, against market signals, usually to enhance efficiency and to promote productivity growth for the targeted industries as well as for the whole economy.” The “whole economy” is an important part of the definition, as it implies that this paper adopts a broad understanding of industrial policy.

⁴The most important publications are Baldwin (2011), Gereffi (2014a), Gereffi and Sturgeon (2013) and Milberg et al. (2014). International organisations are also increasingly devoting attention to the topic, such as the International Labour Organisation (ILO), the Organisation for Economic Cooperation and Development (OECD), the United Nations Conference on Trade and Development (UNCTAD), the United Nations Development Programme (UNDP), the United Nations Industrial Development Organisation (UNIDO), the World Bank and the World Trade Organisation (WTO). See Milberg et al. (2014) for an overview of publications from these international organisations that concern the topic.

⁵Most commonly referring to South Korea and Taiwan, but also includes Hong Kong and Singapore.

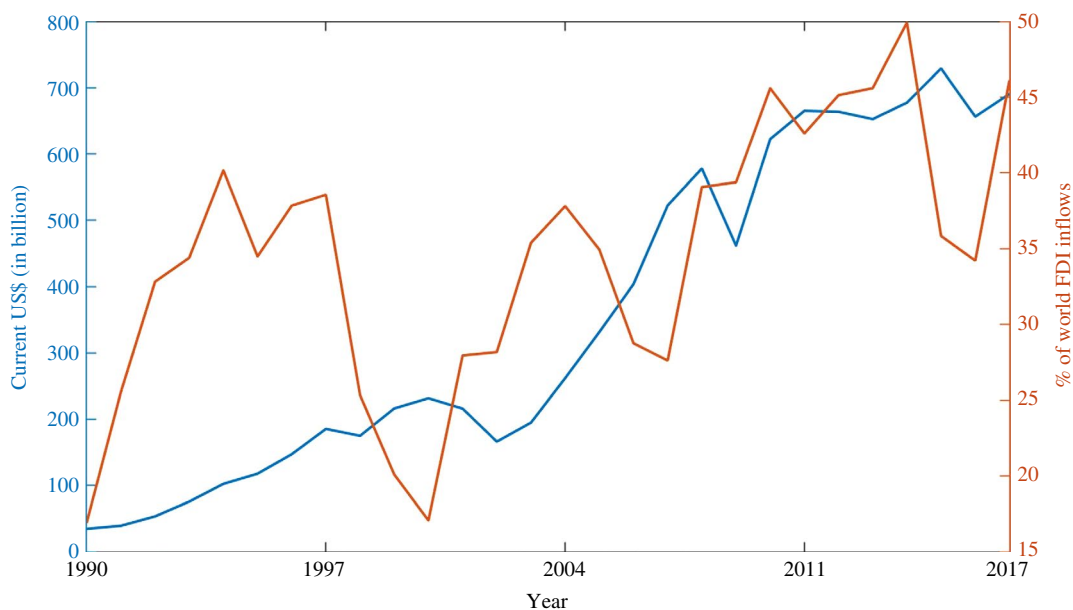


FIGURE 2 FDI inflows to developing countries, 1990–2017

Data source: UNCTAD (2019).

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.

Similarly, Gereffi (2014a) argues that there is not likely to be a return of ISI (import substitution industrialisation) and EOI (export-oriented industrialisation) policies of old.⁶ As a result of the globalisation of production, “companies, localities, and entire countries have come to occupy specialized niches within GVCs. Because of this, today’s industrial policies have a different character and generate different outcomes than before” (Gereffi, 2014a, p. 438). In a related vein, Baldwin (2011) criticises “high development theory”—explicitly referring to those theories that advocate structural transformation based on emulation of previously successful industrialisation experiences—for not fully taking into account revolutionary transformations in industry that have occurred since the mid-1980s. He suggests that the missing element boils down to GVCs. “Before 1985, successful industrialisation meant building a domestic supply chain. Today, industrialisers join supply chains and grow rapidly because offshored production brings elements that took Korea and Taiwan decades to develop domestically” (Baldwin, 2011, p. 3).

The closest thing to a synthesis of this “GVC perspective,” if I may call it that, on the ways in which industrial policy needs to change is the paper by Milberg et al. (2014). They argue that: (a) industrial policy must shift from the traditional stance aimed at developing fully integrated production structures (i.e., developing entire industries domestically) to a stance focusing on moving into higher-valued tasks associated with a certain industry. This is also known as vertical specialisation; (b) while traditional industrial policy may have included protection of domestic industry, success in

⁶Export-oriented industrialisation (EOI) refers to trade and economic policy that aims to speed up the industrialisation of a country through exports. Import substitution industrialisation (ISI) refers to trade and economic policy which advocates replacing foreign imports with domestic production.

the era of GVC expansion requires easy and cheap access to imports, in particular for necessary intermediates; and (c) whereas traditional industrial policy sought to build domestic capacity in order to eventually compete with leading transnational corporations (TNCs), industrial policy nowadays should focus more on negotiating and linking up to TNCs, as the issues facing firms and governments these days require moving up through the chain of production of a particular commodity or set of commodities.⁷

In this paper, I develop a critique of the GVC perspective on industrial policy. It is important that the word “critique” is interpreted correctly here. By being critical, I most importantly mean scrutinising claims to see how far they are convincing. And by being critical, I do not by default disagree. In fact, I think the GVC perspective contains many useful insights on industrial policy, which I will make clear throughout the paper. But, as I will show, I also think it has shortcomings. My hope is that this new and useful GVC perspective on industrial policy works towards a more nuanced integration of an older perspective of industrial policy, the “developmentalist perspective,” which I will elaborate on below.

I will develop my critique by drawing on the industrialisation experiences of South Korea and Taiwan, arguably the two most successful examples of economic catch-up and late industrialisation throughout the history of capitalism. In particular, I will draw on the GVC-oriented industrial policies that these two countries formulated during their rapid economic growth and industrialisation between roughly 1960 and 1990.

The paper does not aim to “bring to light” unknown aspects of South Korea's and Taiwan's industrial policies. The industrialisation experiences of the two countries in this time period are well-documented. However, as shown through the above discussion, the GVC perspective juxtaposes its new framework for industrial policy against the successful catch-up and industrialisation experiences of the second half of the twentieth century, in particular the “traditional” industrial policies of these two countries. Therefore, looking at if and how GVC-oriented industrial policies were formulated in these two countries can serve as a useful starting point for a critical discussion. In fact, part of the motivation for writing this paper is to show that GVC-oriented industrial policies in South Korea and Taiwan actually existed and have some continued relevance as lessons for today's catch-up economies.

In its analysis, the GVC perspective does not sufficiently incorporate the most well-known perspective through which industrial policy in South Korea and Taiwan has been analysed—what I will refer to in this paper as the “developmentalist perspective.” The developmentalist perspective has its roots the fields of political economy and the historical school of economics. Scholars who work in this tradition study the process of economic development through careful case-study analysis of domestic political economy, often through rigorous primary data collection from the relevant cases/countries while also paying attention to global economic dimensions. They focus first and foremost on understanding the “real” economy and policy implications, rather than producing grand theories (this is not to say that the GVC perspective neglects policy implications or study of the real economy). One of the most important figures in the tradition was in fact a policymaker: Alexander Hamilton, the first US Secretary of the Treasury. He laid out the groundwork for what has become known as the infant industry argument, which in short is an economic rationale for trade protectionism.

The developmentalist perspective understands the process of economic development as a process of developing productive capabilities, primarily through industrialisation, and it sees the state as an active player in this process. In its modern form, the developmentalist tradition was advanced by economists such as Albert Hirschman, Arthur Lewis, Simon Kuznets, and Gunnar

⁷The article actually identifies six challenges to industrial policy in the era of GVC expansion, but when addressing how industrial policy should *change*, in particular relating to the issues that will be addressed in this paper, they can most importantly be reduced to these three.

Myrdal (Chang, 2014). The perspective became particularly well-known in development studies after it produced influential works on the industrialisation and development experiences of East Asian economies, some seminal works being Amsden (1989), Chang (1994), Evans (1995), Johnson (1982) and Wade (1990).

In this paper, I will draw mostly on the trade and globalisation aspect of this literature as it relates to South Korea and Taiwan, therefore building mostly on Amsden, Chang and Wade (among these seminal works). By looking at the GVC-oriented industrial policies of South Korea and Taiwan—from predominantly a developmentalist perspective while incorporating the GVC perspective (an approach that has not been taken before)—two important critiques of the GVC perspective will emerge in this paper.

First, while the massive expansion of GVCs started picking up pace most notably since the 1990s, South Korea and Taiwan did not industrialise in a world devoid of GVCs. These two countries actually utilised GVCs in the process of industrialisation. Nike, one of today's largest brand names in the global footwear and sporting outfit industry, outsourced almost all of its shoe production to South Korea and Taiwan from the late 1970s to the late 1980s (Chang et al., 2016). Even before that, in the late 1950s, Taiwan started carrying out massive assembly operations for Japanese companies on electronic consumer goods, including televisions, refrigerators, air conditioners, automobiles, diesel engines and several other items (Wade, 1990).

Second, given the importance of GVC participation for the industrialisation of South Korea and Taiwan, this might actually mean that the expansion of GVCs does not require the thorough “rethink” of industrial policy that the GVC perspective suggests and that there are still plenty of lessons to be learnt from these industrialisation experiences for today's catch-up economies. By reviewing the part of the developmentalist perspective that is relevant for this paper's analysis, we will actually see that there exists a rigorous literature on industrial policy related to trade and foreign investment that does not use the term “GVC,” even though GVC participation has been important in the cases referred to in this literature. It seems to have been overlooked by the GVC perspective, but it is important because we can get key insights into the type of industrial policies (through GVC participation) that has resulted in successful industrialisation. Part of the developmentalist perspective also goes beyond the GVC perspective's dichotomy between ISI and EOI, showing especially with reference to South Korea and Taiwan how both protectionist policies and export-oriented policies often operated in tandem with one another.

Before I move on to the detailed investigation of industrial policy in South Korea and Taiwan, it is important that I highlight a few more points about this so-called GVC perspective. The literature that I presented so far on this perspective is not exhaustive and should certainly not be interpreted as representative of the entire literature on GVCs and development. And while the GVC literature has for a long time come under criticism for not properly incorporating the role of the state in economic development, this is now starting to change. Horner and Alford (2019) provide a rich overview of the emerging literature on the role of the state in global value chains, highlighting new contributions on the role of the state in relation to GVCs as facilitator, regulator, producer and buyer. And if we do not limit ourselves to looking only at those contributions specifically using the term “industrial policy,” but for example the role of the state in “industrial upgrading,” the number of contributions from the GVC perspective increases. In fact, many of them highlight state interventions similar to those highlighted by the developmentalist perspective. For example, Taglioni and Winkler (2016) discuss the usefulness of joint ventures as a strategy for facilitating technological spillovers and know-how from foreign companies to the domestic economy. Kaplinsky and Morris (2015) talk about the dangers of focusing too much on industrial thinning, an implicit critique of one of the arguments by Milberg et al. (2014) that I mentioned above. And in the recently published *Handbook on global value chains* by Ponte, Gereffi, and Raj-Reichert (2019), there are many useful contributions on industrial upgrading

and the role of the state in GVCs, for example by Gereffi (2019), Morris and Staritz (2019) and Staritz and Whitfield (2019).

One can also find examples of recent scholarship leaning towards the developmentalist perspective but actively drawing on GVC literature. For example, Andreoni (2019) combines literature from the two perspectives to build a generalized linkage approach to local production systems development. Behuria (2019) uses insights from the political settlements literature (which arguably is a branch of the developmentalist literature) as a contribution to the growing agenda within the GVC literature and the related global production network (GNP) literature (Henderson, Dicken, Hess, Coe, & Yeung, 2002; Neilson, 2014; Yeung & Coe, 2015) to examine how the role of the state and domestic politics shape upgrading in GVCs in developing countries.

As seen, the lines between these two perspectives are sometimes blurry, as they should be. Both perspectives have made substantial contributions to theories of economic development and industrialisation. The developmentalist perspective has focused more on the role of the state in this process, whereas the GVC perspective has focused more on global dynamics, particularly international relationships between firms.

There are probably many scholars who do not confine themselves to either perspective, which is completely fine. But for the purpose of this exercise, it is useful to attempt to identify some differences, especially if writing on GVC-oriented industrial policy. Throughout the paper, what I deem to be the shortcomings of the new GVC perspective on industrial policy will become clearer (and also where the GVC perspective and the developmentalist perspective overlap). It is especially the slightly ahistorical nature of recent contributions in the GVC literature that I want to highlight. And do keep in mind that it is primarily those articles in the GVC literature that specifically talk about industrial policy that aim my critique at—not the entire literature on GVCs, development and industrial upgrading.

Here follows an outline of the paper:

In Section 2, I review the GVC-oriented industrial policies of South Korea and Taiwan mainly from the developmentalist perspective. I do not aim to be novel in the sense of presenting “new” industrial policies that the developmentalist perspective has not incorporated thus far, but rather, I synthesise those industrial policies that are GVC-oriented in an attempt to add useful elements to the framework of industrial policy that the GVC perspective has proposed.

In Section 3, I present a new framework for GVC-oriented industrial policies for today's developing countries, starting with the framework proposed by the GVC perspective, but building on it with the critique made thus far in the paper. I should emphasise that this framework should not be understood as a general industrial policy framework. Such an exercise is far beyond the scope of this paper. Rather, it is framework that tries to answer specifically if and how an aspect of globalisation, that is the expansion of global value chains, should affect the tools of industrial policy in developing countries. As such, an important caveat should be mentioned. Formulating successful industrial policy is not only about using the right tools, but also about the determinants of state effectiveness. There is a vast literature on those determinants, but this will not be addressed in this paper.⁸ The reason is that the aim of this paper is to analyse the consequences that an external change (i.e., the expansion of

⁸In the context of the East Asian development experience, Woo-Cumings (1999), an edited volume, summarises many of the seminal contributions on the determinants of state effectiveness as it relates to industrial policy. For a more recent article on determinants of state effectiveness—more specifically, on contracting failures, enforcement and implementation issues—in the context of industrial policy in Asia, see Khan (2015).

global value chains) has on the *tools* of industrial policy, and if developing countries now need to do things differently given this change.⁹

2 | SOUTH KOREA'S AND TAIWAN'S GVC-ORIENTED INDUSTRIAL POLICIES

As mentioned, a study of South Korea's and Taiwan's GVC-oriented industrial policies serves as a useful starting point for moving towards a “GVC–developmentalist nexus,” as the GVC literature does not cover the role of industrial policy in these two countries sufficiently. Additionally, from an emulation standpoint for today's catch-up economies, looking in particular at South Korea and Taiwan is useful.¹⁰ First, throughout the history of capitalism, no countries have grown as rapidly from low- to high-income and industrialised as fast as South Korea and Taiwan did from roughly 1960–90. These two countries are arguably the most successful examples of catch-up industrialisation. And because of their decently sized domestic markets, they hold more general lessons for today's developing countries than, for example, the two other Asian tigers, Hong Kong and Singapore. These countries' growth was more idiosyncratic. Most importantly, they did not begin from an agrarian or raw material base that is typically taken to be the starting point for industrialisation.

Second, looking at South Korea and Taiwan as possible case studies to emulate for today's developing countries is useful in a GVC context because the GVC literature is scarce on case studies of successful industrialisation experiences through GVC participation before the 1990s. Or rather, the GVC perspective is scarce on *fully* successful industrialisation experiences, as none of the developing countries that have experienced high growth and industrialisation starting in the 1990s or later have reached high-income status. One obvious explanation is that GVCs only started to proliferate after the 1990s and that many scholars using the framework of GVCs find it irrelevant to look at growth experiences before that time. However, I will make the case in this paper that participation in GVCs was very much a part of both South Korea's and Taiwan's industrial policy plans, as far back as the 1960s.

While a review of the *most recent* literature on industrial policy from the GVC perspective gives the impression that GVC participation was unimportant in South Korea's and Taiwan's industrialisation (as discussed in the introduction), there seems to be some recognition of GVC participation in these two countries in *earlier* articles by the GVC perspective. For example, focusing on apparel and electronics, Gereffi (1996) traces the growth success of various industries in Japan, and later in Hong Kong, South Korea and Taiwan by mastering the dynamics of GVC networks, moving from: (a) the assembly of manufactured goods, using imported components, to (b) original equipment manufacturing (OEM), whereby contractors make goods to be sold under a foreign company's brandname, to (c) original brand name manufacturing (OBM), whereby manufacturers make goods for export and sale under their own label. However, the GVC perspective, *both* in recent and in older articles, fails to incorporate the developmentalist literature on *GVC-oriented industrial policies* (the recent articles being a reference to the ones mentioned in the introduction). In analysing the growth that

⁹Although external changes can affect state effectiveness Acemoglu, Johnson, and Robinson (2001) argue that different types of colonisation have produced different political institutions in developing countries, and Wade (2015) argues that external military threats shaped the East Asian development states), there is little evidence (or literature) on the link between the expansion of global value chains and state effectiveness.

¹⁰If, in the first instance, one believes that emulation is useful. Certainly, if one goes down to the last detail, all experiences are unique, making exact emulation/replication impossible. But I would argue that this does not mean that we should never look at countries that developed under different conditions and at a different point in time.

the Asian tigers experienced throughout the 1960s, 1970s and 1980s through participation in GVCs, industrial policy seems to be waived off as unimportant by the GVC perspective. With reference to the light manufacturing industries, Gereffi (1996, p. 95) writes: “The East Asian NIEs tended not to use specific industrial policies to promote the booming exports of light manufacturing sectors in apparel, footwear and toys. State credit, trade, and labour intensive policies were supportive, but not determining.”

Much of the GVC literature also seems to claim that ISI and EOI are dichotomous, with EOI proving to be more successful (Baldwin, 2011; Gereffi, 1990, 1996, 1999, 2014a, 2014b; Gereffi & Sturgeon, 2013; Milberg et al., 2014). The general argument in this literature is that industrialisation processes in developing countries has undergone a gradual shift from ISI—a model primarily established in Latin America, Eastern Europe and parts of Asia in the 1960s—to EOI, as established by the Asian tigers in the 1970s. Buttressed by the neoliberal thrust of the Reagan and Thatcher governments, EOI became the prevailing orthodoxy for developing economies around the world, according to Gereffi (2014b).¹¹

This dichotomy is misleading. In Section 2.2 below, I will detail how a highly focused export strategy in South Korea and Taiwan ran in tandem with a complicated import substitution strategy—a strategy which had to balance the need for importing certain goods that were needed for the export strategy, while at the same time not eroding the possibilities for developing a domestic supplier base. Understanding these import/export strategies will be important for developing the industrial policy framework in Section 3.

In the subsections below, I carry out an analysis of the GVC-oriented industrial policies in South Korea and Taiwan between 1960 and 1990. I do so by drawing primarily on the developmentalist perspective—a perspective that adds new elements to the GVC literature's new framework for industrial policy. In Section 2.1, I discuss the importance of industrial policy for technology transfer from foreign to domestic firms, for creating backward linkages/promoting local content from foreign firms to the domestic economy and for learning about export markets. In Section 2.2, I try to add nuance to the ISI/EOI dichotomy that the GVC literature operates with when referring to the industrialisation experiences of the second half of the twentieth century.

2.1 | South Korea's and Taiwan's GVC-oriented industrial policies for technology transfer and local content in exports

2.1.1 | South Korea: the case of light manufacturing

It may seem odd to provide South Korea as an example of GVC integration. After all, the country is generally known to have had a restrictive stance towards foreign investors. From 1960 to 1990, FDI inflows as share of total foreign capital inflows (except foreign aid) in the country were a mere 5%, among the world's lowest (Amsden, 1989; Chang, 2006). After almost half a century of Japanese colonialism, there was a strong desire to avoid foreign domination of the economy. Consequently, there

¹¹It must be mentioned that although the ISI/EOI dichotomy is prevalent in the GVC lens, some of its weaknesses are pointed out. Gereffi (2014b, p. 11) writes: “the development story for East Asian 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.” However, this lacks further elaboration.

was a preference for borrowing over FDI (Thurbon & Weiss, 2006). The FDI that was permitted was heavily regulated to ensure that it delivered benefits to the national economy, usually as specified by the Economic Planning Board.

However, while FDI inflows to South Korea have been low, the export-focused light manufacturing industry is in some ways an exception, especially with respect to Japanese foreign investments. Moreover, FDI inflows do not capture all the international subcontracting practices that were prevalent in many of the East Asian countries in the 1960s and 1970s, whereby supplier firms in the value chains were domestically owned (Milberg et al., 2014). As I will explain below, this type of GVC participation was important in South Korea.

Throughout the 1960s and 1970s, the textile, apparel and footwear industry was the highest earning merchandise export category in South Korea (Amsden, 1989, 2001).¹² As mentioned, FDI accounted for a small share of total foreign capital in the country, but in some manufacturing industries, it has been significant—for example in the textile industry, this share amounted to 20% in 1974 (Chibber, 1999). Close ties to Japan have been especially important for the industry.¹³ First of all, Japan's own industrialisation agenda has been crucial. By the late 1950s, the Japanese economy was well into its high-growth phase. Experiencing rising labour costs and thus endangering the competitiveness of its exports, Japan was looking for neighbouring markets to relocate labour-intensive activities to. Japanese capital thus started entering South Korea through direct investments, joint ventures and subcontracting (Chibber, 1999). By the mid-1960s, South Korean firms were exporting all sorts of apparel, mostly to the Japanese and the US markets (Castley, 1997a), using imported inputs from Japan.

The way that relationships between South Korean firms and Japanese firms were formed, especially through joint ventures, was crucial for productivity growth of the Korean firms. It made technology transfer easier, thereby minimising the chance that Korean firms would get stuck with carrying out only low-value tasks in the GVCs.

On the one hand, willingness by the Japanese to form joint ventures with a minority stake played a helping hand. Between 1962 and 1974, 52% of Japanese direct investments in South Korea were with minority ownership, versus only 27% of US direct investments (Amsden, 1989). Joint ventures with the Japanese in which Koreans had majority stakes more easily facilitated the transfer of technological know-how (learning how to produce synthetic fibres was especially important), marketing skills and managerial techniques.

On the other hand, the Koreans systematically pushed for less Japanese involvement and a higher degree of national firm ownership (Singleton, 1997). As soon as possible, the Koreans invested in their own R&D facilities, and by the early 1980s, they had acquired the capability to design their own plants and had reduced import dependence by developing domestic production capabilities in synthetic fibres, petrochemicals, spinning, weaving, dyeing and knitting. It is important to highlight that the Koreans did not develop their textile industry only to reduce import dependence of textile inputs in the apparel industry. Textiles, particularly synthetic fibres, were (and still are) considered more technologically advanced than apparel. They contributed significantly to export earnings in South Korea, especially in the light of the high protectionist barriers that the United States was starting to apply on traditional cotton textiles at the time (Chibber, 1999).

¹²These days, textiles, apparel and footwear are not necessarily grouped into an industry—although one could perfectly argue that they could be, as textiles are crucial inputs for both footwear and apparel production—but in South Korea at the time, firms in textiles, apparel and footwear tended to cluster together (Singleton, 1997).

¹³While diplomatic tensions were tense between South Korea and Japan in the 1960s, capital based in Japan, both Japanese and expatriate Korean, showed an immense interest in setting up operations in South Korea (Chibber, 1999).

Mutually reinforcing EOI and ISI policies were crucial to assist the growth of domestic firms in the industry and to help them become internationally competitive. Amsden (1989) argues that the import substitution of synthetic fibres made the textile industry more productive and less vulnerable to devaluations of the exchange rate. To compensate domestic fibre-using firms for “forcing” them to use domestically produced fibres, the Korean government subsidised inputs and handed out subsidised credit in return for meeting export performance targets (Singleton, 1997). Other important export promotion measures included preferential loans for operation and facility expansion, general tax and tariff exemptions on some imported inputs and wastage allowances (Kim, 1980).

An additional, but often neglected, part of South Korea's success in textiles, apparel and footwear is the attraction of Japanese trading companies. In the early 1960s, Koreans were lacking experience and knowledge of foreign markets, so facilitating cooperation with these trading companies proved crucial. With reference to the Japanese trading companies, Chibber (1999, pp. 330–331) writes:

These trading companies established links with Korean aspirants to the lucrative export markets of the United States and provided them with essential inputs as well as the benefit of their sales and marketing networks. In turn, they were able to deliver the Korean firms as customers for capital goods to Japanese producers ... This is especially true in the case of products where brand recognition and quality play a role, like synthetics, shoes, and so on—which formed the core of the Korean strategy in initial stages. In markets for these goods, not only is quality of central importance, but the initiative lies in the hands of the importer in the targeted country and not the exporter. Links to these importers, their trust, and their satisfaction reign supreme for export success.

The trading companies were especially important for establishing ties to the US markets. In 1966, Japan accounted for 82% of the textile, apparel and clothing market in the United States, whereas South Korea only accounted for 8%. By the early 1970s, the Koreans had made their entry, accounting for 31% of the US market, whereas the Japanese share had fallen to 52% (Castley, 1997b). By this time, 50% of South Korea's exports went to the United States (Castley, 1997a).

Over the 1980s, South Korea's products became even more prominent in the United States. For example, Nike, which has for decades been one of the world's largest brand names in athletic footwear, originally outsourced most of its footwear production to Japan. But as costs in Japan started rising and South Korea started to develop productive capabilities in footwear production, heavy subcontracting relocated to South Korea. In 1982, 86% of Nike's athletic footwear was produced in South Korea and Taiwan (Locke, 2002). This system of outsourcing and subcontracting that started in the 1970s—with especially US retailers and brand names buying finished manufactured goods from foreign suppliers—is exactly what spurred the “buyer-driven value chain”¹⁴ classification in the GVC literature later on (Gereffi, 1994).

In summary, South Korea's success with GVC participation, especially in the light manufacturing industries, can be synthesised to the following: transferring technological know-how through joint ventures, pushing for increased local content and international competitiveness through both EOI and ISI policies, and learning about international markets through trading companies.

¹⁴In buyer-driven value chains, large retailers and brand name merchandisers, such as today's Walmart and Nike, typically control the value chains and specify products to be produced in independent factories in developing countries.

2.1.2 | Taiwan: managing FDI the 'right' way

Like South Korea, Taiwan was in need of foreign capital during its early industrialisation phase. And, just like in South Korea, the fear of foreign domination of the economy was pervasive. But in Taiwan, foreign investment has been slightly more important and foreign borrowing less (Thurbon & Weiss, 2006). Although FDI only accounted for 4% of gross domestic capital formation over the 1970s, on average (Wade, 1990), 20–25% of manufactured exports came from foreign firms in the 1970s (Lee & Liang, 1982).

The origin of foreign capital has been similar to that of South Korea, with most foreign investment coming from the United States, Japan and Hong Kong. This investment has not spread equally across industries. Textiles, apparel and footwear saw a great inflow of foreign capital, but the electronics industry has probably been more important for Taiwan. Over half of foreign firms' exports in the 1970s were in electronics and electrical appliances, and foreign firms accounted for two-thirds or more of total exports from this industry (Wade, 1990).

The control of foreign firms operating in the domestic economy has been strict since the beginning of the industrialisation period, and the government made sure to utilise these investments for the development of productive capabilities, as will be discussed next.

In the early 1960s, there were plenty of attributes that made Taiwan attractive to foreign investors, very similar to those of South Korea. US and Japanese firms were beginning to search for low-cost labour in nearby countries to relocate production to, Taiwan offered political stability and disciplined labour, and the country was linked to Japan from the colonial era and to the United States as an anti-Communist outpost. But the country did a good job in wooing foreign investors as well. Among other things, they offered 100% foreign ownership, guarantees against expropriation and 5-year tax holidays. Effort went into making foreign firms feel welcome, one common trick being to discover some personal connection between the firm and a senior in the Taiwan government (Wade, 1990).

Taiwan has generally had a more welcoming FDI strategy than South Korea, but the government has bargained strategically with foreign investors, even in the 1960s, when the Taiwanese stance towards foreign investors has been considered relatively liberal. An oft-cited example is the permission given to the Singer Sewing Machine Company (US-based) to set up a plant in Taiwan in 1963. The permission granted by the Taiwanese government resulted in strenuous objections by more than 250 small domestically owned assemblers and suppliers. The government argued that inviting the American company to build a plant would save foreign exchange and improve the quality of locally made parts. To ensure this, it imposed that Singer locally procures 83% of required parts one year after commencing operation and that it assists Taiwan's local component producers in meeting specifications. The company did not meet the stringent local content requirements after a year, but ended up transferring a large amount of technology, upgrading the industry and boosting exports (Gold, 1986).

Another example of technology transfer is the polyethylene plant built in the early 1960s by the National Distillers and Chemical Corporation (again, a US-based firm). To attract the company, the Taiwanese government offered a five-year tax holiday, restrictions on imports of polyethylene for three years from start-up, guaranteed supplies of ethylene (an input that goes into making polyethylene) and unlimited repatriation of profits. The Taiwanese government, in return, required that National Distiller should export any surpluses over domestic needs; not establish production facilities in downstream sectors; and transfer 50% of shares to Chinese nationals after 5 years, so as to make it a 50–50 joint venture (Gold, 1981; Wade, 1990). The distiller plant successfully came on line in 1968.

The Taiwanese government applied a stricter stance towards foreign investors starting in the 1970s. In labour-intensive manufacturing, FDI became more discouraged and it was faced with higher export requirements and local content requirements. Additionally, limits were placed on the extent to which foreign firms could capitalise on their technology—typically demanding that technology could not be valued more than 15% of the firm's equity contribution in the case of joint ventures. The intention of this was making the foreign firm commit more equity to the project at hand, thereby carrying more of the risk (Wade, 1990). Foreign investors did not always comply with the tough bargaining. For example, the Japanese automotive manufacturer, Toyota, withdrew from a joint venture in 1984 after concluding that the Taiwanese government insisted on too stringent local content requirements and export requirements: within eight years, 50% of cars were to be exported and local content was to rise to 90% (Wade, 1990).

However, local content policies in Taiwan have generally been successful, and the strategy of linking foreign firms with local suppliers through subcontracting practices became a staple of GVC-oriented industrial policies in Taiwan in the 1970s and 1980s (see Aw, 2003 and Schive, 1990). Proactive industry associations were important in creating strong links between foreign and domestic firms. For example, the electronics industry association TEAMA (the Taiwan Electric Appliances Manufacturers' Association) aggressively recruited members from both foreign and local firms and, with the support of the government, actively promoted the “local content programme” (Aw, 2003, p. 172). Domestic firms wanted to take advantage of the technology, management skills and sales networks of TNCs, and foreign producers stood to benefit from the local content programme because it reduced labour costs and lead times as long as domestic suppliers met quality standards. Consequently, TNCs started enthusiastically training local technicians, providing technical know-how and management skills to suppliers, and cooperated with technical schools on internship programmes (Aw, 2003).

Also starting in the 1970s, The Taiwanese government more actively worked to attract R&D from foreign companies, especially in high-tech sectors. Incentives included tax write-offs for R&D activities conducted in Taiwan and reductions in taxes on technology imports. In return, foreign firms were often asked to establish research departments to train local personnel in advanced engineering activities (Wade, 1990).

Another important aspect of the GVC-participation strategy for Taiwan was learning about technologies and marketing by lead firms in GVCs without direct “bargaining” or “requirements.” For example, as Taiwanese supplier firms inserted themselves in GVCs led by large US retailers, such as J.C. Penney and Walmart, many of these retailers set up offices in Taiwan to deal directly with small manufacturers. Close links to these buyers were important for technology transfer. Levy (1988) argues that foreign buyers and traders were among the most important sources of technological information and support for SMEs in Taiwan. According to Aw (2003), foreign buyers, eager to purchase from cheaper sources, provided Taiwanese firms with technical assistance so that they could meet the foreign markets' quality standards and specifications.

Compared to South Korea, Taiwan probably offered more incentives to attract FDI. But just like in the case of South Korea, Taiwan bargained with foreign investors to ensure technology transfer and growth of local content in exports.

2.2 | Breaking down the GVC perspective's misleading dichotomy between ISI and EOI in South Korea and Taiwan

Remember that the GVC perspective suggests a dichotomy between ISI and EOI, with EOI proving to be more successful. On this matter, the developmentalist perspective, with its greater in-depth reading on the role of the state in the East Asian countries, provides more nuanced insights. Certainly, like the



GVC perspective, part of the developmentalist perspective does indeed make a distinction between ISI and EOI, and one can somewhat plausibly argue that there was a shift from more to less protectionism as South Korea and Taiwan underwent industrialisation (Amsden, 1989; Wade, 1990). But at least the developmentalist perspective shows more clearly how ISI policies were important for the two countries' growth strategies. It does not nearly exclusively attribute their catch-up to EOI. And, unlike the GVC perspective, the developmentalist perspective breaks down important details that show how protectionist policies featured in tandem with the export-oriented policies in South Korea and Taiwan.

Chang (1993) outlines many of these protectionist policies in South Korea: the bureaucracy retained the power to impose emergency tariffs for items with excessively high import growth; quantitative restrictions and import area diversification regulations were pervasive—as late as 1982, 93% of total imports were subject to one or more such restrictions; prohibitive inland taxes were used to virtually ban the import of luxury consumer goods; and subsidised credit to firms who suffered in the short term from import substitution acted in effect as import restrictions.

In addition to these protectionist measures that were relatively visible, Leudde-Neurath (1988) provides an overview of import controls in South Korea of a more “covert” nature. For example, in 1978, a government surveillance programme was launched to make sure that liberalisation measures did not cause problems to domestic suppliers. Second, a number of “special laws” on most imports almost invariably meant that import permission had to be obtained from a public agency. Third, an array of import taxes not specified as tariffs was often imposed when import of non-essential items was attempted (such as golf clubs, whisky and French wine). They were often labelled as an education tax, a defence tax or a just a special tax.

In Taiwan, ISI policies were featured perhaps more explicitly than in South Korea. In the mid-1970s, almost half of the items in the tariff schedule still carried legal rates of over 40% (Wade, 1990). And, just like in South Korea, Taiwan applied a range of non-tariff barriers after starting to gradually reduce tariff rates after the mid-1970s. These included the tying of import licences to export performance; restrictions on which countries imports can come from and who can import them (origin or agency restrictions); and “approval” mechanisms for import control: for firms wishing to import certain inputs, a reference check had to be made to make sure that domestic suppliers could not meet the would-be importer on price, quality and delivery, even if origin and agency restrictions were met (Wade, 1990).

The protectionist policies in both countries operated in tandem with a highly targeted export-oriented strategy. Generally, both governments would give special favours and assistance to firms in exchange for meeting export performance targets (as outlined in some detail in Section 2.1). An export-focused strategy was particularly important for avoiding balance of payments constraints, especially to ease the import of capital goods. But the export-oriented strategies became something “bigger” than just a technical recognition of balance of payments constraints. In his “State of the Nation Message” on 16 January 1965, President Park Chung-hee of South Korea even called it the economic lifeline of the country:

To go with increased production, the government has set another major target – increased exports ... In a country which depends heavily on imported raw materials for its industries, export is the economic lifeline ... For many years, Korea exported only \$20m to \$30m worth of goods a year ... But in the past few years, the government and people awoke from sleep and strove. Exports began to expand rapidly. Last year, our exports exceeded the \$120m mark ... We have acquired the self-confidence that we, too, can successfully compete with others in the international export race.

(Amsden, 1989, pp. 68–69)

Exports as a share of GNP in South Korea rose steadily from less than 5% in the 1950s to ~35% in the 1980s. In tandem, imports as a per cent of GNP rose as well (driven by the capital goods imports), albeit at a slower rate (Amsden, 1989).

In Taiwan, from the early 1960s, several schemes were introduced to give positive discrimination in favour of export sales (for both domestic and foreign firms). Fiscal incentives, such as exemption of income tax for five years, were handed out to manufacturing firms provided that their exports equalled 50% or more of production (Lin, 1973). Concessional export credit, which had been limited in volume in the 1950s, was expanded. Other methods for stimulating exports included export credits, encouragement of export cartels, provision of marketing information and export prizes (Wade, 1990).

The export promotion strategy required a degree of liberalisation of imports of intermediate goods for export production. The system of tax rebates—which allowed exports to be exempt from taxes paid on imports used as export inputs—was amplified in the early 1960s. It was not a straightforward task designing this system of tax rebates. In order to distinguish imports used for exports and imports used for sale in the domestic market, an intricate system of thousands of input–output coefficients was created (Wade, 1991). Exporting firms were also able to obtain import licences needed for their own production more easily, but only if no domestic substitutes were available or if the price of domestic substitutes was 10% above the price of the corresponding import (Lin, 1973). As a result of these measures, the import content of exports in Taiwan rose fast, from 12.9% in 1961, to 19.7% in 1966, to 25.5% in 1971 (Wade, 1990).

An important conclusion emerges at this point. Both South Korea and Taiwan were protectionist *and* liberal with their imports at the same time. This is no oxymoron—both countries realised that importing intermediate goods was necessary to “feed” the export strategy (and in South Korea's case, some were important for the acquisition of foreign technology through reverse engineering), but a full liberalisation of imports would create severe balance of payments problems and, in the case of intermediates in particular, constrain the growth of a domestic supplier industry. In other words, while ISI was a tricky business, EOI had an “unequivocal” green light. The export strategy relieved foreign exchange constraints, thereby enabling these countries to import necessary goods.

3 | TOWARDS A GVC-DEVELOPMENTALIST NEXUS FOR GVC-ORIENTED INDUSTRIAL POLICY IN DEVELOPING COUNTRIES

3.1 | The degree of state intervention in balancing trade openness/EOI and protectionism/ISI

The GVC perspective and the developmentalist perspective are complementary in many ways. But industrial policy prescriptions for today's developing countries could benefit from a stronger merging of the two perspectives especially with respect to the balance between trade openness/EOI and protectionism/ISI.

The GVC perspective has highlighted how industrial policy today should focus less on developing fully integrated production structures—especially through reducing the protection of domestic industry—and more on having cheap and easy access to imports (Milberg et al., 2014). Recent successful industrialisation experiences show the benefits that elements of such a policy regime can bring about. For example, China's export success in manufacturing largely reflects its assembly activities through the use of imported inputs: the share of processing trade (exports that use duty-free imported inputs) in China's total trade increased rapidly since the 1990s, reaching almost 50% in 2011 (OECD, 2013).



However, this kind of strategy can run into problems unless also merged with elements from the developmentalist perspective. So what should a nexus between the two perspectives look like for developing countries today? Let us look at Ethiopia, a good example to apply this kind of exercise to: it is a low-income country growing rapidly, and it has recently launched an ambitious industrialisation strategy and aims to industrialise largely through participating in GVCs (Oqubay, 2015). In its labour-intensive manufacturing industries, such as leather products and apparel, Ethiopia is attracting foreign investors to assist the export drive. To attract foreign investors, a range of financial incentives has been put in place, such as duty-free access to imported inputs and subsidies' land lease (Hauge, 2019). No "restrictions" have been put in place on the investors, only financial incentives to export. For example, the duty-free access to imported inputs is only available if the final product is exported. Overall, Ethiopia's strategy largely complies with the industrial policy formula prescribed by the GVC perspective.

The strategy seems to be working in terms of quick employment creation and growth in export earnings. But there are some worrying signs. One is the size of the import bill for imported inputs. For example, in the apparel sector, the import of fabric are growing faster than the export of apparel (Staritz, Plank, & Morris, 2016). Moreover, few linkages to domestic firms have been created, and exports are dominated by foreign firms (Hauge, 2019). Ultimately, for this strategy to be successful, domestic manufacturing firms need to become internationally competitive.

Unless Ethiopia finds a way to more strategically integrate into GVCs, they might end up like many other developing countries that liberalised without protection and/or a state that actively worked to make domestic firms more competitive, as well as foreign firms. For example, in Mexico, massive attraction of FDI into the Guadalajara IT enclave since the mid-1990s failed to transfer technology because the state did not proactively promote local learning, knowledge and innovation (Gallagher & Zarsky, 2007). Malaysia is another example, which is said to be in a "middle-income trap" because the state has failed to use GVC participation to develop productivity growth of the domestic economy (Cherif & Hasanov, 2015).

What can Ethiopia—and other developing countries in a similar situation—do differently? The story of South Korea and Taiwan holds useful lessons. Like Ethiopia, South Korea and Taiwan made sure to woo foreign investors. But unlike Ethiopia, South Korea and Taiwan bargained strategically with foreign investors to create linkages and transfer technology to the domestic economy. This was particularly done through joint venture requirements and local content requirements, as I have detailed through the two case studies. Their stance to foreign investors was far from lax.

But the developmentalist literature is not alone in prescribing these types of policies. The GVC literature highlights similar mechanisms. For example, Taglioni and Winkler (2016) explicitly recommend joint ventures as an effective strategy for facilitating technology transfer. As for the point on creating linkages and ensuring local content, there is no shortage of recommendations from the GVC literature. Kaplinsky and Morris (2015) warn against industrial "thinning," a situation whereby participation in GVCs without a strategy for creating domestic linkages results in the specialisation of a thin segment of the GVC with little technological content or value, such as assembly of manufactured goods. Cattaneo, Gereffi, Miroudot, and Taglioni (2013) explicitly state that maximising the benefits of GVC participation consists of capturing more value added through the improvement of backward linkages. Their recommendations for doing so include, among other things, requirements for new firms to create explicit supplier programmes and rewards for foreign companies that make an extra effort to help local suppliers.

However, the GVC perspective and the developmentalist perspective are different in two ways. The first is the *degree* of state intervention. Cattaneo et al. (2013, p. 36) suggest that governments should avoid "national content rules," the rationale being that this negatively impacts the attractiveness of the

country for lead firms. Tagliani and Winkler (2016, p. 164) recommend developing countries to use industrial policy only “light-handedly” and be careful not to coerce foreign investors into joint ventures with domestic firms. These arguments resonate with Gereffi’s (1996) claim that industrial policy in East Asia in the second half of the 20th century was not determining in promoting light manufacturing exports. The developmentalist perspective, on the other hand, argues that the degree of state intervention should be stronger. In the case of South Korea and Taiwan, local content *requirements* and joint venture *requirements* were important. And industrial policy was certainly determining, according to this literature.

The second difference relates to the first and is arguably the most important because it more explicitly adds a new policy dimension from the developmentalist literature to the mix: namely the intricate balance between ISI and EOI. The GVC perspective is largely dismissive of ISI, but the developmentalist perspective shows how industrialisation did not work without ISI. In Section 2, especially 2.2, I went through the intricate policy designs related to both areas. Both South Korea and Taiwan realised that importing intermediate goods was necessary to “feed” the export strategy, but that a full liberalisation of imports would create severe balance of payment problems and, in the case of intermediates in particular, constrain the growth of a domestic supplier industry. A good way to think about the EOI-ISI strategy is through a system of “carrots and sticks”—financial favours given to firms only if they met targets related to performance, like export volumes and use of local content. For example, in Taiwan, export subsidies on manufactured goods were among the highest in the world in the 1960s, but exporting firms also faced stringent local content requirements (Wade, 1990). In South Korea, to develop a synthetic fibre industry, the government forced fibre-using apparel firms to use domestically produced fibres, which initially were more expensive and of poorer quality than imported fibres. In return, they gave fibre-using apparel firms credit subsidies and subsidised their purchase of inputs. If the firms met certain performance targets related to exports, these subsidies became more generous (Amsden, 1989).

A GVC–developmentalist nexus on industrial policy would recommend that countries like Ethiopia learn a bit more from the developmentalist perspective, particularly the carrots and sticks related to ISI. So far, Ethiopia has mostly focused on EOI. But if the government does not focus on how to design incentives for enhancing the competitiveness of domestic firms (both input-producing and non-input-producing firms), this will have damaging consequences for long-term productivity growth. However, with respect to ISI, one could argue that the current global economic system has made this more challenging. I will address this issue in my section further below, on how feasible it is to emulate South Korea and Taiwan.

3.2 | Link up to transnational corporations or compete against them?

Another important point advocated in the GVC literature is that whereas traditional industrial policy sought to build domestic capacity in order to eventually compete with leading TNCs, industrial policy nowadays should focus more on negotiating and linking up to TNCs (Milberg et al., 2014). The rationale for this, in short, is that the economic development issues facing firms and governments these days require moving up through the chain of production of a particular commodity or set of commodities.

While industrialisation through linking up to TNCs/attracting FDI has become inevitable (and important) for developing countries who want to increase their participation in the global economy, this strategy warrants some scrutiny. One development we must pay careful attention to is the sheer power that TNCs based in the west have accumulated over the years through globalisation, and the consequences this has for value added across different parts of the value chain. According to Nolan, Zhang, and Liu (2007), a handful of firms, predominantly based in the west, have accounted for 50% or more

of the market share in practically every global industry since about 2000. In essence, a small number of actors are appropriating increasing shares of profits over a larger market—profits arising from technological dominance, brand name recognition and privileged access to low-cost capital. Combined with increased competition among developing countries, this has especially made unskilled/low-tech segments of global value chains less profitable.

A popular depiction of this is the deepening of the “smiling curve,” a curve which was first presented by Stan Shih, Acer's Chief Executive Officer in the early 1990s. It suggests that since the 1990s, manufacturing activities in global value chains—at least those focusing on assembly—are becoming less profitable (see Figure 3 for a version of the smiling curve). Some industry-specific case studies support the idea of the deepening of the smile. For example, Ali Yrkkö, Rouvinen, Seppälä, and Ylä-Anttila (2011) found that only one-third of the value of a Nokia N95 phone comes from manufacturing: making the parts (33%)—processors, memory chips, integrated circuits, displays and cameras—and assembling the phone (2%). Two-thirds of the value comes from services, such as support services (30%), licences (4%), distribution (4%), retailing (11%) and operating profit (16%) (see Figure 3).

This development is certainly not missed out on in the GVC literature. Kaplinsky (2005) found that after sustained growth in the prices of traded manufactures until the early 1990s, we have witnessed an aggregate relative decline in these prices, most significantly for those exported by developing countries. Using more recent data, Milberg and Winkler (2013) find a similar result by looking at the price of manufactured imports from developing countries into the United States. They observe that clothing, footwear, textiles, furniture and toys have all experienced a 40% import price decline relative to US consumer prices from 1986 to 2006.

This means that by linking up to TNCs, developing countries risk being stuck with carrying out low-value production activities. This risk is higher today than a few decades ago, largely because of the increasing power asymmetries between TNCs based in the west and firms in developing countries. One obvious implication of this is that developing countries have to find a way “upgrade” in value chains to those activities that are, well, valuable. The GVC literature on “upgrading” is massive and suggests many ways by which to do so, and there is little point for me to reiterate this literature here.

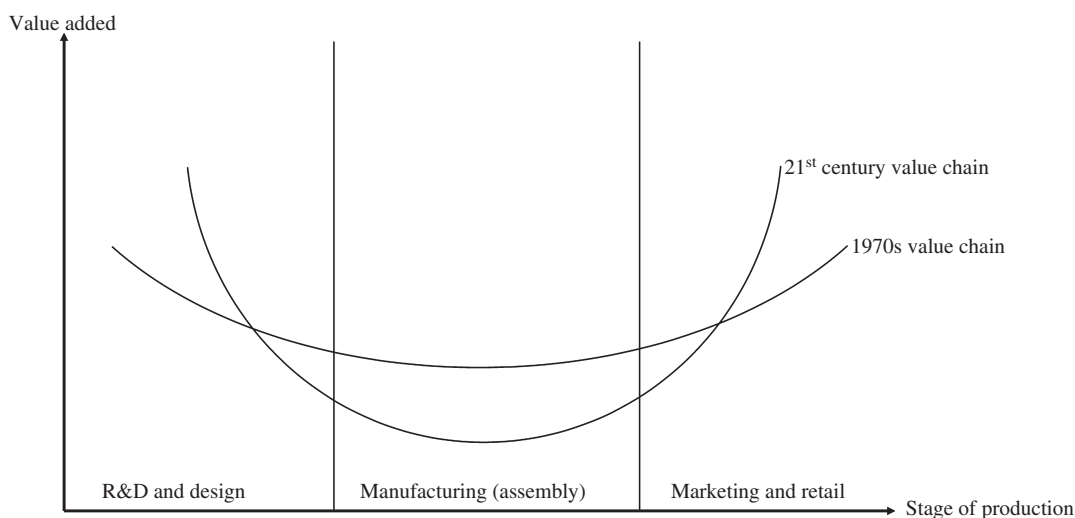


FIGURE 3 The growing smile of value chains

Data source: Author's creation based on numerous other versions.

Another implication of the increasing power of TNCs based in the west is the importance of catch-up industrialisation strategies that aim to ultimately compete against the currently powerful TNCs or, at least, avoid linking up to TNCs initially. An important strategy in this regard is the establishment of state-owned enterprises (SOEs). In their review of the role of the state in global value chains, Horner and Alford (2019) actually highlight SOEs as a research area that the GVC literature has neglected.

The rationale behind setting up an SOE is that the government has the best ability to take on investments projects that involve high risks (e.g., not linking up to TNCs) but can potentially bring very high returns in the future. Both South Korea and Taiwan are instructive examples, and Taiwan is more well-known for creating a huge SOE sector. In 1952, the SOE sector in Taiwan accounted for 57% of industrial production (Amsden, 1985). It gradually declined in importance, but still played an important role for a long time: between 1950 and 1980, the average investment share of SOEs in gross fixed capital formation in Taiwan was 32%, higher than that of other countries with sizeable SOE sectors in this time period, such as Singapore, South Korea and Brazil (Short, 1983). We have to turn to South Korea though for the best example of an SOE that grew to become a global giant. Its steel maker, POSCO, currently the fourth largest steel maker in the world, was established as an SOE in 1968. The World Bank actually advised the South Korean government strongly against supporting its steel industry at the time, as it was not aligned with the country's current comparative advantage (Wade, 2012).

While the global economy has changed in many ways since Taiwan and South Korea industrialised, SOEs are still abundant around the world. Many of the largest firms in the world are state-owned, including 15 of the top 100 non-financial TNCs, as well as 41 of the top 100 TNCs from developing countries (Horner & Alford, 2019). And some of the fastest growing economies are the heaviest users. In China, 51,000 firms are fully or partially owned by the state (Horner & Alford, 2019). In Vietnam, the three fastest growing manufacturing industries—shipbuilding, steel and apparel—have all followed the same model of initially establishing an “umbrella” SOE for the respective industry, responsible for setting up production facilities and coordinating investments by domestic firms (Chang et al., 2016). The continued importance of SOEs in industrialisation should give an indication that there are industrial policy pathways in the era of GVCs that are not confined to carrying out activities on the demands of TNCs.

3.3 | Why should we bother taking lessons from a time when things were different?

While I am ultimately suggesting that South Korea and Taiwan hold useful insights for today's developing countries, their development experiences had some unique features that should caution the idea that emulation is a straightforward task. For example, many studies on the East Asian development experience have stressed the “favourable” conditions under which South Korea and Taiwan developed, such as the surging world market demand of the 1950s and 1960s when these countries started their export drive, the legacy of Japanese colonialism which left behind a good base for manufacturing to thrive, and the high level of US aid to South Korea and Taiwan due to their strategic importance in the Cold War (See Chang, 2006, who discusses these theories, although does not endorse them). The positive legacy of Japanese colonialism is often highlighted. For example, Scitovsky (1985) points out that the Japanese built roads, railways, harbours and the beginnings of industry that South Korea and Taiwan had. Kohli (1994) emphasises that Japanese colonialism was different from European colonial projects in that it developed manufacturing industries in its main colonies, that is South Korea and Taiwan, which gave them an advantage in their subsequent industrialisation.

The global trade environment was also different. Costs of trade were a lot higher, which reduced the competition that South Korea and Taiwan faced from other developing countries. International trade, cross-border investment flows and global value chains certainly existed, but the scale was lower (see Figures 1 and 2, which I presented in the introduction). The fact that fewer developing countries participated in world trade also meant that South Korea and Taiwan had more leverage to bargain with foreign investors, such as demanding joint ventures. Today, such bargaining is difficult without market power. This is probably why China—a country with more market power than any other developing country—is the most successful case in today's era of global trade in establishing joint ventures with investors from higher-income countries. Moreover, global rules and regulations on trade policies were more lax. Most importantly, the World Trade Organization (WTO) did not exist. Under the banner of promoting free and equal trade between countries, WTO members are, among other things, prohibited the use of local content requirements on FDI and export subsidies (Chang et al., 2016; Wade, 2003). These two factors combined gave South Korea and Taiwan more autonomy to formulate and experiment with trade policies, both in the form of ISI and EOI. For example, these countries had more leverage with foreign investors with respect to local content requirements, they had more freedom to set tariffs at desired levels, and there were no global rules limiting the use of export subsidies.

On the other hand, some scholars have argued that South Korea and Taiwan did not have uniquely favourable conditions to industrialise. According to Kim (1991), the small infrastructural base in South Korea during Japanese rule was mostly destroyed during the Korean War of 1950–53. In Taiwan, when the country was transferred to the Republic of China after the Second World War, the new administration plundered most of the rents, according to Nordhaug (2008). Telephone lines in use per 1,000 inhabitants—a common measure of a country's level of infrastructural development—were lower than 10 in both South Korea and Taiwan in 1960, similar to most countries in sub-Saharan Africa at that time. Per capita value added in manufacturing in the 1950s in South Korea and Taiwan was on par with most countries in sub-Saharan Africa at that time and far below that of most countries in Latin America (Chang, 2006).

With respect to trade, while lowered trade costs today have increased the competition among developing countries and given them less “policy space,” it has also enabled more developing countries to participate in the global system of production. Developing countries' share of low-tech manufacturing exports has almost tripled since 1980 (Hauge & Chang, 2019). In that sense, an export-led industrialisation model has become more accessible for developing countries.

With respect to WTO rules, there are quite a few loopholes around them (see Chang et al., 2016). First, many subsidies can still be legally used, for example subsidies for R&D and upgrading of disadvantaged regions. The idea is that it is not supposed to be a direct export subsidy. This means that one can also label a subsidy as a non-export subsidy, when in effect it is. Additionally, least developed countries are exempt from the ban on export subsidies. As for regulations on FDI, while local content requirements cannot be used legally, many other measures can, like those related to joint ventures, technology transfer agreements (see Taglioni and Winkler, for a range of policy recommendations for technology transfer) and limitations of foreign equity ownership. As for tariffs, although the WTO is working to lower tariffs worldwide, the rules are still lax and tariffs are certainly not illegal to use.

The most important point about WTO rules is that an action has to be challenged through a WTO dispute, and this challenge has to be successful before a trade policy instrument is removed. And even if this happens, the amount of time it could take for the challenge to be successful (normally it takes years) could allow for the trade policy to have had the intended effect.

The key point from this brief evaluation of the conditions under which South Korea and Taiwan developed is that we should be careful to assert that conditions underpinning South Korea's and Taiwan's industrialisation were so unique that developing countries today should not bother taking lessons from their strategies. Ex-ante, not many people predicted the rapid industrialisation of South Korea and

Taiwan. Ex-post, it is easy to be deterministic about various global conditions and the “uniqueness” of the East Asian development experience. If we go down to the last detail, every development experience is unique, both with respect to internal and external circumstances. But this does not mean that there is nothing to learn from these experiences.

4 | CONCLUSION

Scholars that study industrialisation and economic development issues from a GVC perspective have in recent years showed an interest in if and how the expansion of GVCs should affect industrial policy in developing countries. While this perspective does not lack in diversity of opinions or can be said to encompass the entire literature on GVCs and development, the perspective does seem to merge around the view that industrial policy in developing countries today has to take a different form compared to the “traditional” policies that characterised the development path of the Asian tigers. Most importantly, the GVC perspective calls for an approach to industrial policy that (a) shifts its traditional stance aiming to develop fully integrated production structures to a stance focusing on specialised tasks associated with a certain industry and (b) that focuses more on linking up to TNCs, in contrast to traditional industrial policy, which emphasised building up domestic capacity in order to eventually compete with TNCs.

The GVC perspective's ideas for industrial policy contain useful insights, but they can be improved upon. In this paper, I suggested a framework for GVC-oriented industrial policy that merges the GVC perspective and the developmentalist perspective—the latter of which is a perspective that industrial policy is most often analysed through, but which has been somewhat neglected by the GVC perspective.

The main observation which serves as a rationale for this paper is that the GVC perspective too quickly dismisses the relevance of industrial policy in the East Asian development experience, particularly those in South Korea and Taiwan. The reason for this dismissal by the GVC perspective is in some ways obvious: the expansion of GVCs became notable only after the 1990s. This means that lessons one can take from the industrialisation experiences of the Asian tigers for a contemporary framework on GVC-oriented industrial policy are somewhat limited. But I show that GVCs actually existed pre-1990s, although on a smaller scale.

In Section 2 of the paper, I developed case studies of GVC-oriented industrial policies in South Korea and Taiwan, drawing mostly on the developmentalist perspective. These case studies then served as a basis for the policy framework in Section 3: “Towards a GVC–developmentalist nexus for GVC-oriented industrial policy in developing countries.” In the framework, I suggest that the GVC perspective's lessons for industrial policy would improve by more clearly acknowledging the continued importance of three observations by the developmentalist perspective: (a) the need for governments in catch-up economies to bargain with foreign investors for the purpose of domestic industrialisation; (b) policy design should not only focus on increasing exports, but also focus on replacing some imports with domestic production. This means that a liberal stance towards the import of inputs cannot have an unequivocal green light; and (c) linking up to the value chains of transnational corporations based in high-income countries can bring about some benefits, but ultimately, successful industrialisation necessitates a degree of challenging transnational corporations. State-owned enterprises have historically played an important role in this respect.

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ORCID

Jostein Hauge  <https://orcid.org/0000-0002-8259-963X>

REFERENCES

- Acemoglu, D., Johnson, S., & Robinson, J. (2001). The colonial origins of comparative development. *The American Economic Review*, 91(5), 1369–1401.
- Ali Yrkko, J., Rouvinen, P., Seppala, T., & Yla-Anttila, P. (2011). Who Captures value in global supply chains? Case Nokia N95 Smartphone. *Journal of Industry, Competition and Trade*, 11(3), 263–278. <https://doi.org/10.1007/s10842-011-0107-4>
- Amsden, A. (1985). The state and Taiwan's economic development. In P. Evans, D. Ruschemeyer, & T. Skocpol (Eds.), *Bringing the State Back* (pp. 78–106). Cambridge, UK: Cambridge University Press.
- Amsden, A. (1989). *Asia's next giant: South Korea and late industrialization*. Oxford, UK: Oxford University Press.
- Amsden, A. (2001). *The rise of "the rest": Challenges to the west from late-industrializing economies*. Oxford, UK: Oxford University Press.
- Andreoni, A. (2019). A generalized linkage approach to local production systems development in the era of global value chains, with special reference to Africa. In R. Kanbur, A. Noman, & J. Stiglitz (Eds.), *The quality of growth in Africa* (pp. 264–294). New York, NY: Columbia University Press.
- Aw, B.-Y. (2003). Technology acquisition and development in Taiwan. In S. Lall, & S. Urata (Eds.), *Competitiveness, FDI and technological activity in East Asia* (pp. 168–190). Cheltenham, UK: Edward Elgar.
- Baldwin, R. (2011). *Trade and industrialisation after globalisation s 2nd unbundling: How building and joining a supply chain are different and why it matters* (National Bureau of Economic Research (NBER) Working Paper No. 17716). <https://www.nber.org/papers/w17716>
- Behuria, P. (2019). The domestic political economy of upgrading in global value chains: How politics shapes pathways for upgrading in Rwanda's coffee sector. *Review of International Political Economy*. <https://doi.org/10.1080/09692290.2019.1625803>
- Castley, R. J. (1997a). Korea's export growth: An alternative view. *Canadian Journal of Development Studies*, 18(2), 187–212. <https://doi.org/10.1080/02255189.1997.9669705>
- Castley, R. J. (1997b). *Korea's economic miracle: The crucial role of Japan*. Basingstoke, UK: Palgrave Macmillan.
- Cattaneo, O., Gereffi, G., Miroudot, S., & Tagliani, D. (2013). *Joining, upgrading and being competitive in global value chains: A strategic framework* (World Bank Policy Research Working Paper No. 6406). Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/254001468336685890/Joining-upgrading-and-being-competitive-in-global-value-chains-a-strategic-framework>
- Chang, H.-J. (1993). The political economy of industrial policy in Korea. *Cambridge Journal of Economics*, 17, 131–157. <https://doi.org/10.1093/oxfordjournals.cje.a035227>
- Chang, H.-J. (1994). *The political economy of industrial policy*. Basingstoke, UK: Macmillan Press.
- Chang, H.-J. (2006). *The East Asian development experience: The miracle, the crisis and the future*. London, UK: Zed Books.
- Chang, H.-J. (2014). *Economics: The User's guide*. London, UK: Penguin Books.
- Chang, H.-J., Hauge, J., & Irfan, M. (2016). *Transformative industrial policy for Africa*. Addis Ababa, Ethiopia: UNECA.
- Cherif, R., & Hasanov, F. (2015). *The leap of the tiger: How Malaysia can escape the middle-income trap* (IMF Working Paper, WP/15/131). <https://www.imf.org/en/Publications/WP/Issues/2016/12/31/The-Leap-of-the-Tiger-How-Malaysia-Can-Escape-the-Middle-Income-Trap-43021>
- Chibber, V. (1999). Building a developmental State: The Korean case reconsidered. *Politics and Society*, 27(3), 309–346. <https://doi.org/10.1177/0032329299027003002>
- Evans, P. (1995). *Embedded autonomy: States and industrial transformation*. Princeton, NJ: Princeton University Press.
- Gallagher, K. P., & Zarsky, L. (2007). *The enclave economy: Foreign investment and sustainable development in Mexico's Silicon valley*. Boston, MA: MIT Press.
- Gereffi, G. (1990). Paths of industrialization: An overview. In G. Gereffi, & D. Wyman (Eds.), *Manufacturing miracles: Paths of industrialization in Latin America and East Asia* (pp. 3–31). Princeton, NJ: Princeton University Press.
- Gereffi, G. (1994). The organisation of buyer-driven global commodity chains: How US retailers shape overseas production networks. In G. Gereffi, & M. Korzeniewicz (Eds.), *Commodity chains and global capitalism* (pp. 95–122). Westport, CT: Greenwood Press.
- Gereffi, G. (1996). Commodity chains and regional divisions of labour in East Asia. *Journal of Asian Business*, 12(1), 75–112.

- Gereffi, G. (1999). International trade and industrial upgrading in the apparel commodity chain. *Journal of International Economics*, 48, 37–70. [https://doi.org/10.1016/S0022-1996\(98\)00075-0](https://doi.org/10.1016/S0022-1996(98)00075-0)
- Gereffi, G. (2014a). A global value chain perspective on industrial policy and development in emerging markets. *Duke Journal of Comparative and International Law*, 24, 433–458.
- Gereffi, G. (2014b). Global value chains in a post-Washington Consensus world. *Review of International Political Economy*, 21(1), 9–37. <https://doi.org/10.1080/09692290.2012.756414>
- Gereffi, G. (2019). Economic upgrading in global value chains. In S. Ponte, G. Gereffi, & G. Raj-Reichert (Eds.), *Handbook on global value chains*. Cheltenham, UK: Edward Elgar.
- Gereffi, G., & Sturgeon, T. (2013). Global value chains and industrial policy: The role of emerging economies. In D. K. Elms, & P. Low (Eds.), *Global value chains in a changing world* (pp. 329–360). Geneva, Switzerland: WTO.
- Gold, T. (1981). *Dependent development in Taiwan*. Doctoral dissertation. Cambridge, MA: Department of Sociology, Harvard University.
- Gold, T. (1986). *State and society in the Taiwan miracle*. Armonk, NY: M. E. Sharpe.
- Hauge, J. (2019). Should the African lion learn from the Asian tigers? A comparative-historical study of FDI-oriented industrial policy in Ethiopia, South Korea and Taiwan. *Third World Quarterly*, 40(11), 2071–2091. <https://doi.org/10.1080/01436597.2019.1629816>
- Hauge, J., & Chang, H.-J. (2019). The role of manufacturing versus services in economic development. In P. Bianchi, C. R. Duran, & S. Labory (Eds.), *Transforming industrial policy for the digital age* (pp. 12–36). Cheltenham, UK: Edward Elgar.
- Henderson, J., Dicken, P., Hess, M., Coe, N., & Yeung, H. (2002). Global production networks and the analysis of economic development. *Review of International Political Economy*, 9(3), 426–464. <https://doi.org/10.1080/09692290210150842>
- Horner, R., & Alford, M. (2019). *The roles of the state in global value chains: And update and emerging agenda*. Global Development Institute Working Paper Series 2019-036. Manchester, UK: University of Manchester. <https://www.gdi.manchester.ac.uk/research/publications/gdi-working-papers/2018-036/>
- Johnson, C. (1982). *MITI and the Japanese Miracle: The growth of industrial policy, 1925–1975*. Stanford, CA: Stanford University Press.
- Kaplinsky, R. (2005). *Globalization, inequality and poverty: Between a rock and a hard place*. Cambridge, UK: Polity Press.
- Kaplinsky, R., & Morris, M. (2015). Thinning and thickening: Productive sector policies in the era of global value chains. *European Journal of Development Research*, 28(4), 625–645.
- Khan, M. (2015). The role of industrial policy: Lessons from Asia. In D. Bailey, K. Cowling, & P. Tomlinson (Eds.), *New perspective on industrial policy for a modern Britain* (pp. 79–100). Oxford, UK: Oxford University Press.
- Kim, K. S. (1991). The Korean Miracle (1962–1980) Revisited: Myths and realities in strategy and development (Kellogg Institute for International Studies, Working Paper, #166). <https://kellogg.nd.edu/documents/1400>
- Kim, Y. B. (1980). The growth and structural change of the textile industry. In C. K. Park (Ed.), *Macroeconomic and industrial development in Korea* (pp. 56–90). Seoul, Korea: Korea Development Institute.
- Kohli, A. (1994). Where do high growth political economies come from? The Japanese lineage of Korea's developmental state. *World Development*, 22(9), 1269–1293. [https://doi.org/10.1016/0305-750X\(94\)90004-3](https://doi.org/10.1016/0305-750X(94)90004-3)
- Lee, T. H., & Liang, K. S. (1982). Taiwan. In B. Balassa (Ed.), *Development strategies in Semi-industrial Economies* (pp. 310–350). Baltimore, MD: Johns Hopkins University Press.
- Leudde-Neurath, R. (1988). State intervention and export-oriented development in South Korea. In G. White (Ed.), *Developmental states in East Asia* (pp. 68–112). London, UK: Palgrave Macmillan.
- Levy, B. (1988). *Korean and Taiwanese firms as international competitors: The challenges ahead*. Center for Development Economics 110, Department of Economics, Williams College. [tps://ideas.repec.org/s/wil/wilcde.html](https://ideas.repec.org/s/wil/wilcde.html)
- Lin, C. Y. (1973). *Industrialization in Taiwan, 1946–72: Trade and import-substitution policies for developing countries*. New York, NY: Praeger.
- Locke, R. M. (2002). *The promise and perils of globalization: The case of Nike* (MIT Working Paper, IPC-02-007). <https://ipc.mit.edu/sites/default/files/2019-01/02-007.pdf>
- Milberg, W., Jiang, X., & Gereffi, G. (2014). Industrial Policy in the era of vertically specialized industrialization. In J. Salazar-Xirinachs, I. Nübler, & R. Kozul-Wright (Eds.), *Transforming economies: Making industrial policy work for growth, jobs and development* (pp. 151–178). Geneva, Switzerland: UNCTAD and ILO.
- Milberg, W., & Winkler, D. (2013). *Outsourcing economics: Global value chains in capitalist development*. Cambridge, UK: Cambridge University Press.



- Morris, M., & Staritz, C. (2019). Industrialization paths and industrial policy for developing countries in global value chains. In S. Ponte, G. Gereffi, & G. Raj-Reichert (Eds.), *Handbook on global value chains* (pp. 505–520). Cheltenham, UK: Edward Elgar.
- Neilson, J. (2014). Value chains, neoliberalism and development practice: The Indonesian experience. *Review of International Political Economy*, 21(1), 38–69. <https://doi.org/10.1080/09692290.2013.809782>
- Nolan, P., Zhang, J., & Liu, Z. (2007). *The global business revolution and the cascade effect: Systems integration in the aerospace, beverages and retail industries*. London, UK: Palgrave Macmillan.
- Nordhaug, K. (2008). Institutional change and policy reform in Taiwan: The making of a developmental state. *Pacific Focus*, 12(1), 25–47. <https://doi.org/10.1111/j.1976-5118.1997.tb00003.x>
- OECD (2013). *Interconnected economies: Benefitting from global value chains*. Paris, France: OECD.
- Oqubay, A. (2015). *Made in Africa: Industrial policy in Ethiopia*. Oxford, UK: Oxford University Press.
- Ponte, S., Gereffi, G., & Raj-Reichert, G. (2019). *Handbook on global value chains*. Cheltenham, UK: Edward Elgar.
- Schive, C. (1990). The next stage of industrialization in Taiwan and South Korea. In G. Gereffi, & D. L. Wyman (Eds.), *Manufacturing miracles: Paths of industrialization in Latin America and East Asia* (pp. 267–291). Princeton, NJ: Princeton University Press.
- Scitovsky, T. (1985). Economic Development in Taiwan and South Korea: 1965–91. *Food Research Institute Studies*, 19(3), 215–265.
- Short, R. (1983). *The role of public enterprises: An international statistical comparison*. Department Memorandum Series 83/84. Washington, DC: International Monetary Fund.
- Singleton, J. (1997). *The world textile industry*. London, UK: Routledge.
- Staritz, C., Plank, L., & Morris, M. (2016). *Global value chains, industrial policy and sustainable development: Ethiopia's apparel export sector*. Geneva, Switzerland: International Centre for Trade and Sustainable Development, Country Case Study.
- Staritz, C., & Whitfield, L. (2019). Local firm-level learning and capability in global value chain. In S. Ponte, G. Gereffi, & G. Raj-Reichert (Eds.), *Handbook on global value chains* (pp. 385–402). Cheltenham, UK: Edward Elgar.
- Tagliani, D., & Winkler, D. (2016). *Making global value chains work for development*. Washington, DC: World Bank.
- Thurbon, E., & Weiss, L. (2006). Investing in openness: The evolution of FDI strategy in South Korea and Taiwan. *New Political Economy*, 11(1), 1–22. <https://doi.org/10.1080/13563460500494784>
- UNCTAD. (2019). UNCTAD online statistics database. <https://unctadstat.unctad.org/EN/>
- Wade, R. (1990). *Governing the market: Economic theory and the role of government in East Asian Industrialization*. Princeton, NJ: Princeton University Press.
- Wade, R. (1991). How to protect exports from protection: Taiwan's duty drawback scheme. *The World Economy*, 14(3), 299–309. <https://doi.org/10.1111/j.1467-9701.1991.tb00850.x>
- Wade, R. (2003). What strategies are viable for developing countries today? The World Trade Organization and the shrinking of 'development space'. *Review of International Political Economy*, 10(4), 621–644. <https://doi.org/10.1080/09692290310001601902>
- Wade, R. (2012). How can low-income countries accelerate their catch-up with high-income countries? The case for open-economy industrial policy. In A. Noman, K. Botchwey, H. Stein, & J. Stiglitz (Eds.), *Good growth and Governance in Africa: Rethinking development strategies* (pp. 246–272). Oxford, UK: Oxford University Press.
- Wade, R. (2015). The role of industrial policy in developing countries. In A. F. Calcagno, S. Dullien, A. Marquez-Velazquez, N. Maystre, & J. Prieue (Eds.), *Rethinking development strategies after the financial crisis—Volume 1: Making the case for policy space*. New York: UN.
- Woo-Cumings, M. (Ed.) (1999). *The developmental state*. Ithaca, NY: Cornell University Press.
- World Development Indicators. (2019). *World Development Indicators Online Databank*. <https://databank.worldbank.org/source/world-developmentindicators>
- Yeung, H., & Coe, N. (2015). *Global production networks: Theorising economic development in an interconnected world*. Oxford, UK: Oxford University Press.

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