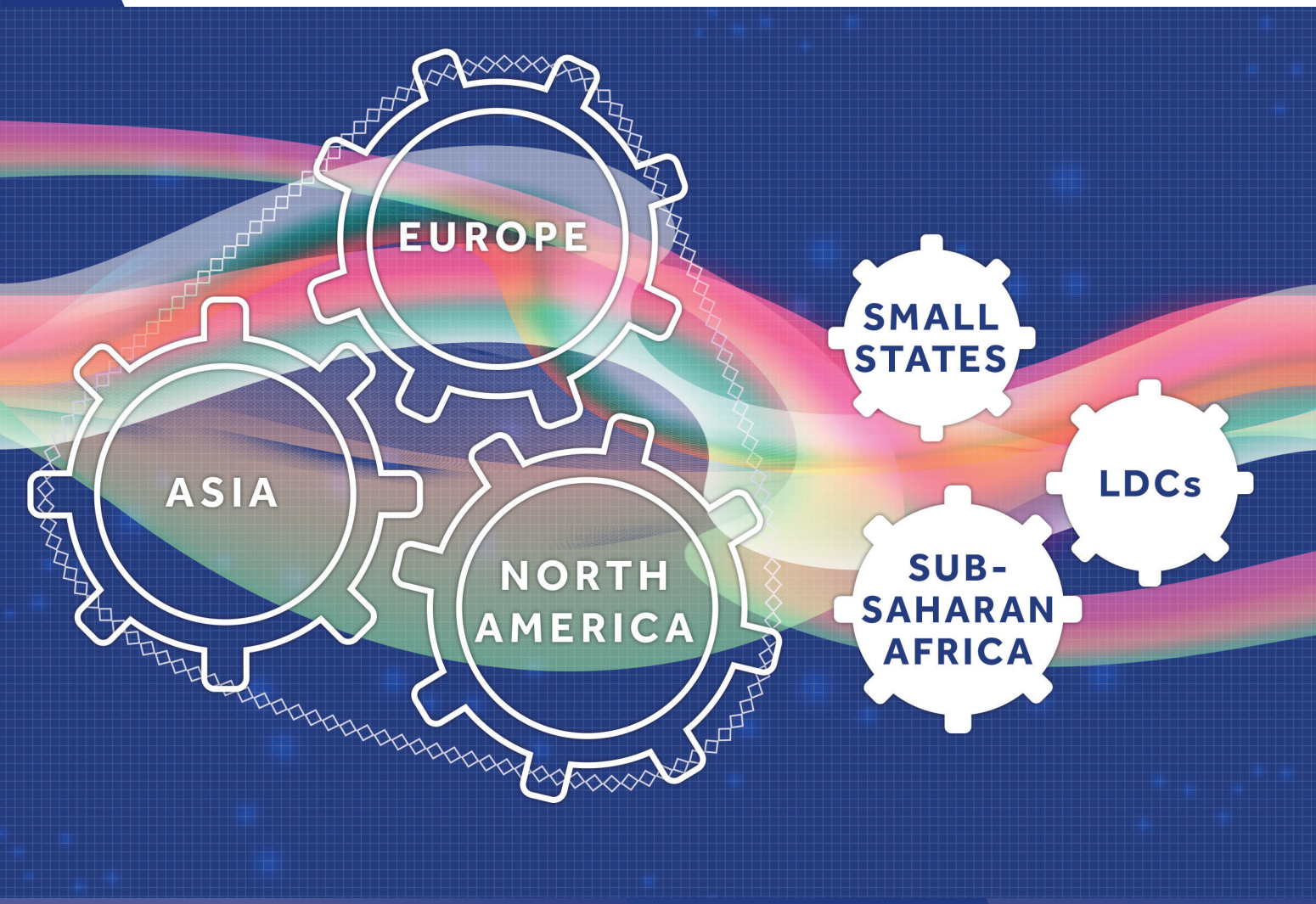
Future Fragmentation Processes

Effectively Engaging with the Ascendancy of Global Value Chains

Edited by Jodie Keane and Roland Baimbill-Johnson



The Commonwealth

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Edited by Jodie Keane and Roland Baimbill-Johnson

The Commonwealth

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Foreword

Commonwealth governments look for ways to leverage the power of global trade in order to build economic and social resilience by expanding formal employment opportunities, adding value locally, and diversifying exports through the creation of a broader base of productive capabilities. These objectives were articulated clearly at our March 2017 Commonwealth Trade Ministers Meeting.

Even without a formal trade arrangement our Commonwealth partners enjoy a trade advantage, and tend on average to trade around 20 per cent more with each other than with non-Commonwealth countries. Trade costs are also lower by around 20 per cent because of our common institutions, legal systems and language. Greater coordination could increase this advantage even further. Within the context of the currently emerging global trading landscape, closer Commonwealth cooperation on trade has the potential to boost commerce and flows of investment.

In order to adapt to the emerging global trading landscape, and make more of the opportunities offered, it is necessary to revise and reconfigure public policy frameworks so that they are fit for purpose and reflect the values and principles of our Commonwealth Charter and the agreed priorities of the 2030 Agenda for Sustainable Development. Trade governance capabilities and regulation need to offer inclusive opportunities for all, with the dividends of prosperity shared more equitably.

This publication draws together contributions from distinguished experts on trade and global value chains, reflecting on past experience and considering likely future trajectories. The aim is to stimulate further innovative thinking, and to initiate practical action and support for trade and for regenerative and inclusive development that is more nuanced and specific to national and regional contexts.

The Right Hon Patricia Scotland QC
Commonwealth Secretary-General

Preface

Leveraging trade in order to expand formal employment opportunities, generate greater value addition, assist export diversification across products and markets, enhance resilience and support the development of productive capabilities is an aspiration of all Commonwealth governments. These objectives were conveyed clearly at the Commonwealth Trade Ministers Meeting convened in March 2017.

The first *Commonwealth Trade Review* (Commonwealth Secretariat, 2015) revealed that the 'added value' of the Commonwealth was related to the common institutional frameworks that existed between members. Realising the potential to further leverage the 'Commonwealth advantage' on contemporary trade and investment flows and linkages requires further reflection on the possible trajectory of future fragmentation processes. The think pieces included in this volume, contributed by policy-makers and academics from across the Commonwealth and beyond, are intended to enable precisely this reflection.

In this publication, as well as taking stock of past performance, we reflect on potential future dynamics. The chapters collated in this publication provide for a more careful examination of GVCs within which our members specialise at the sectoral level: manufacturing, services and commodity trade, including within the realm of the oceans economy. Given that the overwhelming majority of the 52 Commonwealth member countries are small states, 45 are oceans states and around one-fifth are least developed countries, understanding how dynamics are unfolding at the sectoral level is critical to encouraging more gainful GVC participation.

We now face a very different global trading landscape compared with in the past. Contemporary trade manifests itself in specific tasks, with operations and production processes fragmented and geographically disbursed. In view of these trends and through a more inductive approach, one that involves learning from experiences across the Commonwealth of existing GVC participation, a clear set of policy measures becomes apparent. These include overcoming barriers to entry, informational asymmetries and unfair competition, and stimulating innovation.

There are areas of mutual interest and where enhanced co-ordination could enhance trade gains. Given that the ability to transmit tacit knowledge through Commonwealth trade, finance and investment networks in view of our common language and institutions is inherent in the demonstrable effect of the "Commonwealth advantage" it suggests that the translation of already known best practice into transferrable and non-tacit forms through the sharing of toolkits and frameworks could further enhance the gains from closer collaboration. The necessity of doing so is heightened in view of the advancement of the SDGs.

Governments have to better understand corporate strategies if they are to effectively engage with GVC trade. The achievement of structural economic transformation within the context of GVC trade entails system-wide approaches, more cognisant of innovation systems, as opposed to more siloed approaches towards sectoral development. Concerted action is required to facilitate interactions between private and public agents, so as to effectively enable social upgrading processes.

This publication is organised as follows:

- In Section 1, we reflect on global developments likely to influence future fragmentation processes and the possible trajectory of the GVC mechanism.
- In Section 2, we discuss thematic issues with particular relevance to Commonwealth members, including the interface between trade, institutions and regulatory frameworks.
- In Section 3, we summarise sectoral developments and changing dynamics affecting some of the major value chains in which many Commonwealth members trade.
- Section 4 presents three alternative policy perspectives on effectively engaging with the ascendency of GVCs and future fragmentation processes.

The main findings from each Section are summarised in the following sub-sections.

Section 1: Global developments

There is increasing recognition that the wave of fragmentation that has underpinned the GVC mechanism in recent decades may have reached its limit. This realisation, along with other noticeable trends, such as the increasing pace of growth in trade in services compared with that in goods, has prompted a period of introspection in the international trade community. Although some of the national-level actions that have emerged as a result of this realisation resemble forms of protectionism, the overarching objective in most cases is to enhance domestic value addition processes and bolster productive capacity.

The chapters in this scene-setting section of *Future Fragmentation* intend to draw the reader's attention to developments at the macro level that are likely to influence future fragmentation processes and the possible trajectory of the GVC mechanism. They also provide for a more careful examination of GVCs at the sectoral level, covering manufacturing, services and commodity trade. Given that the overwhelming majority of the 52 Commonwealth member countries are small states, and around one fifth are least developed countries, understanding how dynamics are unfolding at the sectoral level is critical to encouraging more gainful GVC participation.

In the first chapter, **Wignaraja** draws attention to the profound shifts that are under way in the GVC fragmentation mechanism and in the role of 'Factory Asia'. This includes the structural shift in China's growth pattern, which has become less dependent on investments and exports; the increasing role of regional economies within GVCs; and the surge in trade protectionism that has become apparent in recent years. Wignaraja argues that, as a result of the combination of these developments, the GVC fragmentation mechanism has entered a new phase. As a consequence, trade-led growth models require some refinement as firms modify their business strategies within the more supportive domestic frameworks governments are providing. Proactive foreign direct investment (FDI) strategies are required to leverage the potential of digital trade. A greater focus on the process by means of which firms join GVCs, including the implications of mergers and acquisitions for firm growth and the building of technological capabilities, is also required.

In the second chapter, **Sturgeon, Farole, Ortega Moncada and Pietrobelli** describe why distance exerts a strong influence on GVC participation, in part because of the costs of co-ordination and a reduction in the exchange of tacit knowledge arising from interactions between buyers and sellers; distance can, therefore, reduce the potential for 'learning by exporting'. Although small states may find it easier to insert themselves into GVCs

through specialisation in a narrow range of tasks, overcoming some of the challenges of distance requires strong interventions designed to foster exposure to high-value activity hubs that specialise in research and development and marketing, with targeted skills development and active linkage development. In this regard, particular emphasis is placed on information and communications technology (ICT) and connectivity. These technologies transform not only conventional business models but also how buyers and sellers interact.

Finally, **Nissanke** describes how commodity markets have developed in recent years, with a deepening relationship between commodities that are traded physically (by transnational corporations) and those that are traded virtually (within derivatives portfolios on financial markets). The combined effect of these transformations has altered conventional processes of price discovery and risk-hedging, with implications for managing price volatility at the producer level. To counteract some of these potentially adverse effects, producers should pursue mitigating strategies. The aim of these should be to broaden learning and knowledge accumulation processes and reinvigorate productive investments. Invariably, this entails critical reflection on the institutional framework within which GVCs operate.

Section 2: Thematic issues

Since the beginning of the twenty-first century, the primacy of institutions in driving the trade–growth nexus has been at the forefront of development thinking. However, as **Keane** argues, only recently have institutional variables and public policy frameworks been paid greater attention within GVC analysis, as opposed to being relegated to the 'background'. Although global public policy aspects, notably social and environmental ones, have achieved greater prominence since the adoption of the SDGs, the operationalisation of these goals across fragmented regulatory spheres continues to be subject to scrutiny and debate.

Because the transformation of global production through firms' internationalisation strategies has fundamentally altered the conventional profit–investment nexus, more careful consideration has to be given to the institutional context within which firms trade and interact. These interactions—between public and private sector actors—must be contextualised as part of processes of technological advancement and societal learning within a broader innovation system. In order to facilitate these processes, trade governance structures have to adapt.

Within this context, **Low** reflects on the role of services in enabling particular types of upgrading in GVCs. Value-added estimates of trade are transforming our understandings of the contribution made to total trade by services. A tendency to define regulatory structures that affect goods, services and investment in separate policy compartments interferes with the relatively seamless nature of interaction among these aspects of GVC activity. Within the context of contemporary trade patterns as manifested in GVCs, rules across different modes of services supply need to be defined and applied with greater consideration of their interconnectedness, rather than being formulated in silos. The assignation of policies individually to modes of supply reduces policy neutrality. This can serve development objectives in certain cases, but it can also undermine them.

Better understanding company ownership structures, as well as where 'substantive activity' takes place, has major implications for public policy aspects, including taxation. Given this reality, the contribution by **Rutherford** reflects on the participation of small states in GVCs. This includes their role as providers of high-value services to multinational corporations through hosting International Financial Centres, thus facilitating tax efficiency.

Although this position within GVCs has been advantageous in the past, it is coming under increasing strain.

Business models are changing. This means there is a need for consideration of new strategies for diversifying into other high-value services. The current investment and regulatory regimes in many Commonwealth small states have to adapt to these regulatory shifts. This includes building on existing comparative advantages and capabilities to facilitate movement into other high-value services, as they begin their fragmentation processes.

Section 3: Sectoral developments and changing dynamics

The recycling of comparative advantages between trading partners located within the current dominant hubs of global economic activity (Asia, the EU and the USA), and particularly within Asia, was underpinned by a process whereby the functions disbursed from lead firms, through offshoring or outsourcing, enabled the release of resources to facilitate their upgrading processes. This process has been described as the 'flying geese' model of trade-induced economic development.

In the future, the Chinese process of recycling its comparative advantages within manufacturing sectors will be known as the 'flying dragon'. However, the evidence presented in the sectoral case studies in Section 3 demonstrates how similar processes are now being replicated across other regions and sectors in the Commonwealth as firms begin their internationalisation strategies.

The case studies referred to in this volume range from soft agricultural commodities to capital-intensive industries (e.g. the automotive industry) and traditional services industries, such as tourism. The issues highlighted in each of the case studies highlight new situations related to changes in business models and the emergence of tiers of suppliers. These include contractual issues, effective competition management and the process of technological innovation and adaptation.

We begin with a review of sectoral developments within what are referred to in the literature as additive value chains, where value is added at each sequential stage of the production process. These types of value chain are typical of the commodities sector. The chapter by **Struthers** analyses the changing dynamics within commodity markets and increasing price volatility using a principal–agent framework. Adopting this form of micro perspective helps shed light on the role of informational asymmetries within trading relationships and how contractual arrangements may influence these.

More fundamentally, this chapter reflects on how the fragmentation of production processes within commodity markets has influenced the transmission of information. In some cases, this has increased the scope for opportunistic behaviour. To address some of the challenges that could result from information asymmetries, a number of options to advance the compatibility of incentives are identified. These include greater consideration of contractual arrangements, price risk management instruments and the creation of commodity exchanges within producing countries.

The chapter by **Dihel and Shahid** provides evidence of structural economic transformation induced through GVC participation, within sectors and different types of value chains and with alternative contracting arrangements. This is in contrast with the traditional understanding of the achievement of structural economic transformation across sectors. The chapter presents the results of pilot studies undertaken in agricultural value chains in Africa. These studies find divergent patterns of structural transformation within sectors,

induced through value chain participation and mediated by alternate contractual relations.

Through a focus on maize, cassava and sorghum in Ghana, Kenya and Zambia, the results help shed light on the specific policies and types of contractual arrangements that can assist in supporting the movement of producers (farmers) and upgrading processes towards higher-value intermediate processes and final outputs, which result in higher and more stable incomes. Within this context, the results from the studies suggest a greater focus on strengthening regional value chains (RVCs), particularly in the agriculture sector.

Further to this introduction to entry-level stages of GVC participation, sectoral developments within high-value agriculture GVCs, including processed fisheries, are explored. The chapter by **Nana Asante-Poku** examines how domestic and external factors interacted over time to influence Ghana's participation in the pineapple GVC. Asante-Poku compares experiences between 1984–2004 and 2005–13 to illustrate how institutional changes have influenced relationships between second- and third-tier suppliers and firms. The chapter describes how participation within the pineapple value chain initially grew over time, but also how a failure to adapt to major changes (including the introduction of new varieties) in the international market inadvertently led to a subsequent decline. Within this context, lessons are derived regarding addressing financial constraints, which, it is argued, constrained Ghana's ability to respond effectively to dramatic changes in the external market, leading to the ceding of a large portion of market share over time.

Trade preferences into the European market have historically provided a strong incentive to diversify away from commodity dependency and enable a shift towards other forms of high-value agriculture. The chapter by **Keane** explores these aspects, reflecting on the participation of the incumbent Kenya and the more recent entrant, Ethiopia, in high-value agriculture and the subsector of cut flowers. The emergence of tiers of suppliers is clearly apparent in the case of Kenya; these act as intermediaries, controlling production and supply to retailers. Some Kenyan lead firms are also active in Ethiopia. A type of 'flying geese' model is described as being in operation within the East African region. The implications of these recent trends are contextualised in terms of contemporary understanding of conventional upgrading processes within GVCs—notably the need to facilitate productive investments. The dual processes of economic and social upgrading require close linkages between the public and the private sectors within a type of innovation system, which requires adaptation to cross-border linkages between firms.

The chapter by **Campling** explores the interactions between international trade regimes, the tuna GVC and the attainment by small island developing states of SDG 14, Life Below Water. The nature of the tuna GVC, with retailers often playing suppliers off against each other, can lead to cost pressures being transferred to boat owners further down the chain. These trade challenges, which arise from the nature of organisation and co-ordination within the tuna GVC, are considered alongside other long-standing trade issues, including those related to harmful fishing subsidies (SDG 14.6), which create an even more unlevel playing field for small states. In addition to addressing this aspect of unfair competition—while preserving aspects relating to special and differential treatment—the chapter outlines a number of areas in which actions could be taken to increase the economic benefits derived from this sector.

Moving up the technological sophistication ladder, we then proceed to analyse sectoral developments within the textiles and clothing GVC, with a particular focus on Sub-Saharan

Africa (SSA). This sector is the archetypal 'vertically fragmented' value chain. Vertically specialised chains result from the fracturing of production processes, with firms increasingly specialising in their core competences and outsourcing their non-core activities. This leads to the fragmentation and slicing-up of production into a myriad of sub-processes, which can be undertaken in parallel.

The chapter by **Staritz, Morris and Plank** describes how the rise of textiles and clothing GVCs in SSA is generally perceived as a successful process of beginning the industrial development process through leveraging preferential market access and attracting FDI. However, aggregated analysis of SSA clothing exports masks some crucial differences: end market shifts; the emergence of RVCs; the variety of firm types included in different value chain channels; the political–economy dynamics driving this; and the related sustainability and development implications. This chapter identifies the different types of firm in the textiles and clothing industry—transnational, regional, diaspora and indigenous—in SSA and their implications for conventional upgrading processes.

The chapter by **Barnes** presents a framework for developing countries with automotive industries, or those seeking to establish them. It assesses the implications of the emergence of different dynamics within the sector. These changes include the domination of value chains by a small group of Tier 1 suppliers; stricter environmental and safety standards; and, finally, growth in emerging markets and the potential for RVC development. These developments serve to reinforce a focus on the development of technological capabilities. Although the provision of subsidies by governments can facilitate entry into the automotive value chain, over time these aspects become less important compared with the development of specific capabilities within the sector.

The final chapter, by **Nurse, Stephenson and Mendez**, explores the scope for economic diversification within the tourism sector. By adopting the GVC perspective, this chapter explores the linkages between different services sectors and tourism to identify opportunities for upgrading to higher-value activities. Cross-border services activities in the tourism sector include the online services provided by tour agents. However, despite being of tremendous value, the linkages between this type of service and the conventional tourism value chain are not always considered. Other forms of tourism services, including commercial presence, are also not exploited. The evidence presented in this chapter suggests that more effective upgrading processes for the tourism value chain include consideration of the linkages between different modes of services supply.

Finally, some of the main findings arising from analysis of trade in value added in African, Caribbean and Pacific countries are presented, the main highlights of which include the following:

Caribbean[1]

- There was a consistent increase in the proportion of foreign value added embedded within the exports of Barbados, Belize, Guyana and Jamaica between 1995 and 2000.
- The main sectors that experienced an increase in foreign value added in exports (2000–12) were transport; food and beverages; post and telecommunications; private households; and maintenance and repair.
- The main sectors that experienced a decrease in foreign value added (2000–12) were mining and quarrying; electrical and machinery; textiles and apparel; fishing; and public administration.
- This suggests declining participation in archetypal GVC sectors, such as light manufacturing and processed fisheries.

- A consistent increase in domestic value added in exports occurred between 1995 and 2012 in the case of Antigua and Barbuda, The Bahamas and Trinidad and Tobago. However, domestic value added by Caribbean countries as a proportion of global trade in value added (2000–12) decreased, except in the case of Trinidad and Tobago (driven by the dominance of petrochemical exports).
- Global value added to exports (through imports) increased between 2000 and 2012 by almost 10 percentage points, with a slight decrease in the regional sourcing of value added from other Caribbean partners (0.02 per cent).
- However, individual countries in the region (Barbados, Guyana and Jamaica) have increased their sourcing of regional value added, mostly from Trinidad and Tobago.

Pacific[2]

- Between 1995 and 2012, Fiji and Papua New Guinea increased the proportion of foreign value added in their exports. Australia and, to a much lesser extent, New Zealand, by contrast, experienced a decrease, and the proportion of domestic value added in their exports increased.
- Globally, the value added contribution of Australia to world exports has increased dramatically in recent years, whereas that of New Zealand has decreased.
- Overall, the regional contribution of value added to global exports has increased, from around 3 per cent (2000) to 7 per cent (2012). Australia is the only country that has not increased regional sourcing of value added.
- Each of the individual countries of the Pacific increased their sourcing of value added from Australia between 2000 and 2012.
- The sectors with the largest increases in foreign value added in exports (average percentage point change) include agriculture; mining and quarrying; post and telecommunications; hotels and restaurants; and, construction.
- The sectors with the largest decreases in foreign value added (and hence where domestic value added may have increased) were financial intermediation and business services; petroleum, chemical and non-metallic mineral products; education, health and other services; wood and paper; and, retail trade.

Section 4: Policy perspectives

In view of the new evidence of participation in GVCs by the Commonwealth, and changes over time, it becomes clear that far more nuanced and country-, as well as region-, specific approaches towards more effective and gainful GVC engagement are required. Given this context, we introduce four alternative, but also complementary, policy perspectives.

Kaplinsky affirms the primacy of economic rents in securing a sustainable growth trajectory. These can be secured across sectors, including in services and agriculture. He moves away from a narrow focus on the manufacturing sector as a driver of sustainable growth and income. This is because productive sector polices must adapt to the type of GVC within which producers trade. A distinction is made between two major types of GVCs and their specific policy requirements. In vertically fragmented and specialised value chains, the country must deepen its capabilities in order to transition to new ones. In additive chains, there is a need for systematic development of linkages between production nodes and between sectors.

Taglioni, Winkler and Engel emphasise how countries that understand the opportunities GVCs offer and that adopt appropriate policies

to mitigate some of the risks associated are more likely to boost employment and productivity. Because flows of goods, services, people, ideas and capital are interdependent, their contribution to upgrading in GVCs depends on how the process has been managed. The imperatives for improved management of GVC engagement and the process of technological development unleashed are underscored by findings that suggest that, while more GVC engagement may create more net jobs, there may also be lower job intensity.

Razzaque and Keane emphasise concerns regarding the development of firms' technological capabilities and the achievement of social and economic upgrading processes over time through GVC engagement. Drawing attention to value chain governance and power dynamics, they note that all governments are grappling with the balance between state and business interests and the appropriate alignment of incentive structures. Competitive incentive schemes to attract GVCs can undermine economic and social objectives in the longer term. In some cases, a focus on trade facilitation measures for both imports and exports is undoubtedly beneficial. However, an alternative policy narrative is required, focusing on trade costs and capabilities, to induce inclusive and sustainable GVC participation. Small state support measures may be necessary. Moreover, greater attention should be paid to value chain development led by trade in services in countries with excessive trading costs.

Finally, the growth facilitation framework described by **Xu** describes how the transformation of latent comparative advantages into competitive advantages entails policy-makers proactively deploying effective industrial policies in collaboration with the private sector to overcome first mover and coordination problems during the process of industrial upgrading. While the popular perception that most industrial policies fail miserably has tempted us into saying 'no' to all kinds of such policies, a more constructive approach is to delve deeper into comparative studies of both successes and failures in an effort to learn and unveil new insights.

Concluding Remarks

All of the chapters in this publication are intended to draw the reader's attention to developments at the macro level that are likely to influence future fragmentation processes and the possible trajectory of the GVC mechanism in the future. They provide for a more careful examination of GVCs at the sectoral level, covering manufacturing, services and commodity trade.

Given that the overwhelming majority of the 52 Commonwealth member countries are small states, and around one fifth are least developed countries, understanding how dynamics are likely to unfold at the sectoral level is critical to encouraging more gainful GVC participation, which requires fit for purpose twenty-first century trade support measures.

All of the case studies included in this publication demonstrate how, on the one hand, trade has become fragmented and organised within GVCs, but also more co-ordinated by firms. Each of the case studies highlights new issues related to changes in business models and the emergence of tiers of suppliers. These include contractual issues, effective competition management and the process of technological innovation and adaptation.

In order to overcome some of the perennial challenges associated with achieving conventional upgrading processes in view of these changing dynamics and, within the context of meeting the SDGs by 2030, many of the sectoral case studies reach similar conclusions. These include an emphasis on developing technological capabilities, overcoming information asymmetries, strengthening the interaction between GVC engagement and institutional development.

Because the transformation of global production through firms' internationalisation strategies has fundamentally altered the conventional profit–investment nexus, it is incumbent on policy makers to pay closer attention to the institutional context within which firms trade and interact. These interactions—between public and private sector actors—must be contextualised as part of the processes of technological advancement and societal learning within a broader innovation system. In order to facilitate these processes, trade governance structures have to adapt.

Although not exhaustive, some of the policy recommendation arising from this publication include:

- **Addressing the barriers to services trade**: enhancing connectivity
- **Upgrading trade governance frameworks**: enabling knowledge transfers
- **Securing business integrity**: creating and capturing greater value

Given that the ability to transmit tacit knowledge through Commonwealth trade, finance and investment networks in view of our common language and institutions is inherent in the demonstrable effect of the "Commonwealth advantage" it suggests that the translation of already known best practice into transferrable and non-tacit forms through the sharing of toolkits and frameworks could further enhance the gains from closer collaboration. The necessity of doing so is heightened in view of the advancement of the Sustainable Development Goals.

Notes

1 These findings are based on analysis of Eora-MRIO data included in a forthcoming Commonwealth Secretariat GVC Handbook for the Caribbean and Pacific (July 2017) and, finally, a background paper prepared by Mendez-Parra (2016).

2 *Ibid.*

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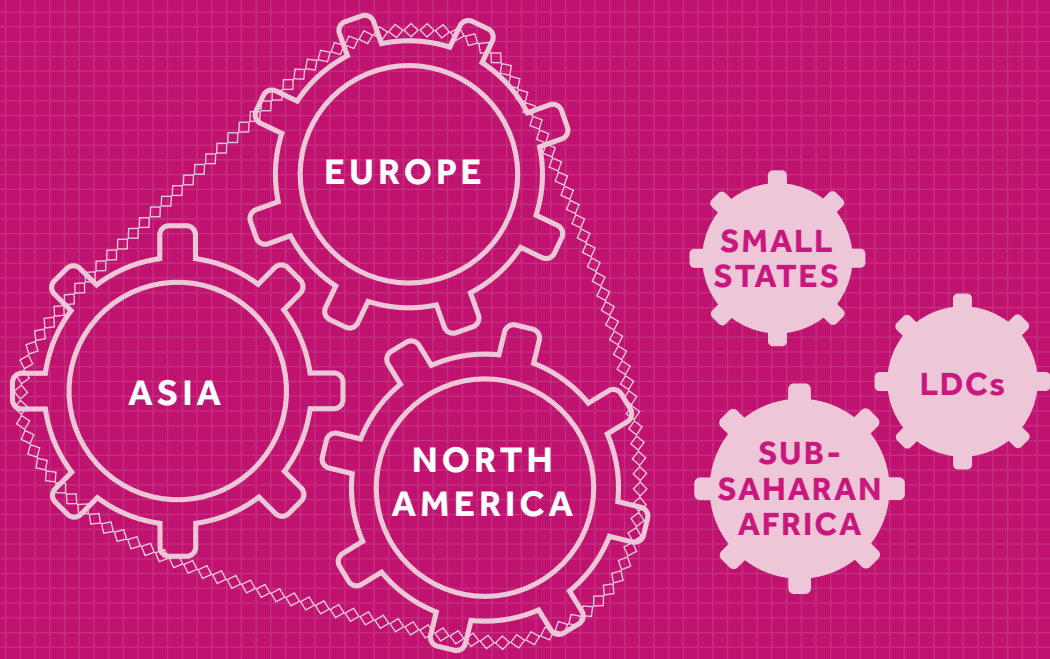
Abbreviations and Acronyms

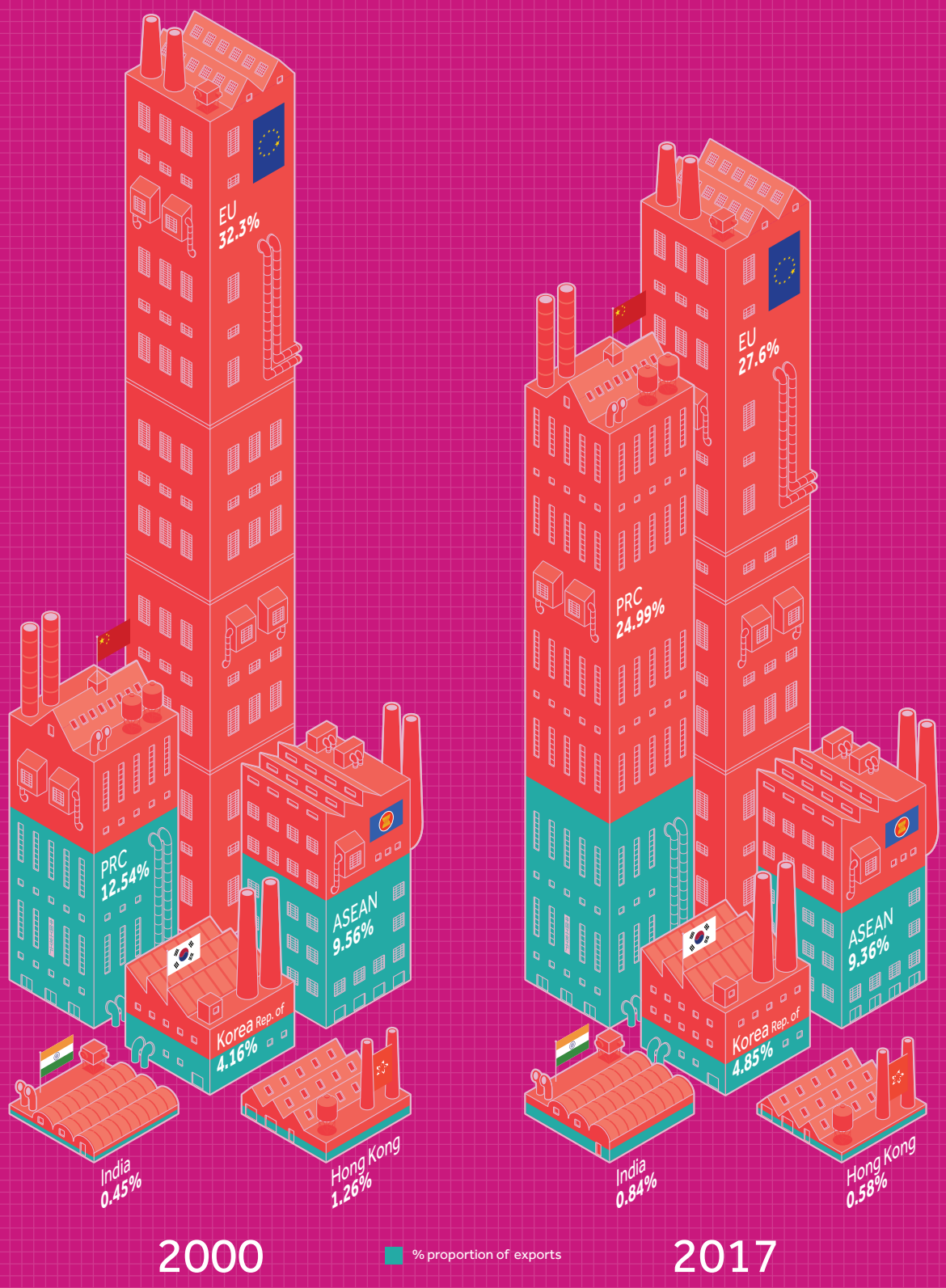
ACP	African, Caribbean and Pacific
ADB	Asian Development Bank
AGOA	Africa Growth and Opportunity Act
ASEAN	Association of Southeast Asian Nations
BEPS	base erosion and profit shifting
BRICS	Brazil, Russia, India, China and South Africa
CDDC	commodity-dependent developing country
CEPII	Centre d'Études Prospectives et d'Informations Internationales
CF	Commonwealth and Francophonie
CFC	Common Fund for Commodities
CFTA	Continental Free Trade Area
CMT	cut, make, trim
COMESA	Common Market for Eastern and Southern Africa
CPA	Cotonou Partnership Agreement
DWF	distant water fleet
EAC	East African Community
EBA	Everything but Arms
EC	European Commission
ECOWAS	Economic Community of West African States
ECX	Ethiopian Commodity Exchange
EEZ	exclusive economic zone
Eora-MRIO	Eora Multi-regional Input–Output database
EPA	economic partnership agreement
EPZ	export processing zone
EV	electric vehicle
FDI	foreign direct investment
FPA	fisheries partnership agreement
FRA	Food Reserve Agency
FTA	free trade agreement
FVA	foreign value added

GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GFC	global financial crisis
GSP	Generalised System of Preferences
GVC	global value chain
GVC-RI	GVC Remoteness Index
HQCF	high-quality cassava flour
HS	Harmonised System
ICA	international commodity agreement
ICT	information and communications technology
IFC	international finance centre
IFI	international financial institution
ILFS	integrated labour force survey
ILO	International Labour Organization
IMF	International Monetary Fund
ITFCRM	International Task Force on Commodity Risk Management
IT	information technology
ITU	International Telecommunications Union
IVC	international value chain
LBE	learning-by-exporting
LCV	light commercial vehicle
LDC	least developed country
LIC	low-income country
LPI	Logistics Performance Index
M&HCV	medium and heavy commercial vehicle
Mercosur	Mercado Comun del Cono Sur
MFA	Multi Fibre Arrangement
MFN	most-favoured nation
MNC	multinational corporation
MNE	multinational enterprise
MSMEs	micro-, small and medium-sized enterprises
NAFTA	North American Free Trade Agreement
NCPB	National Cereals and Produce Board

NGO	non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
OEM	original equipment manufacturer
OTC	over-the-counter
PMA	preferential market access
PNA	Parties to the Nauru Agreement
PPP	purchasing power parity
PRC	People's Republic of China
R&D	research and development
RoO	rules of origin
RVC	regional value chain
S&DT	special and differential treatment
SACU	Southern African Customs Union
SADC	Southern African Development Cooperation
SDGs	Sustainable Development Goals
SIDS	small island developing state
SMEs	small and medium-sized enterprises
SMTQ	standards, metrology, testing and quality
SOAS	School of African and Oriental Studies, University of London
SPEG	Sea-Freight Pineapple Exporters of Ghana
SRI	Sandals Resorts International
SSA	sub-Saharan Africa
TCF	third country fabric
TiVA	trade in value added
TNC	transnational corporation
TPP	Trans-Pacific Partnership
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
UNIDO	United Nations Industrial Development Organization
UNWTO	United Nations World Tourism Organization
VDS	Vessel Days Scheme
WDI	World Development Indicators
WTO	World Trade Organization
ZB	Zambian Breweries

Section 1: Global Developments




EU
32.3%
PRC
12.54%
ASEAN
9.56%
Korea Rep. of
4.16%
India
0.45%
Hong Kong
1.26%
EU
27.6%
PRC
24.99%
ASEAN
9.36%
Korea Rep. of
4.85%
India
0.84%
Hong Kong
0.58%
2000
% proportion of exports
2017

Chapter 1

Slowdown in Asia's Global Value Chains and Industrial Latecomers

Ganeshan Wignaraja[1]

1.1 Introduction

The rich industrial history and trade performance of the economies of developing Asia during the past several decades have been associated with global value chains (GVCs), a novel form of industrial organisation. The emergence of GVCs in developing Asia during the 1980s powered the region's ascent and its integration into global production networks, resulting in rapid gross domestic product (GDP) growth. Two decades of unprecedented prosperity followed for the region. However, slowing global trade growth since the 2008–09 global financial crisis (GFC) has begun to cast a shadow on the dynamism of developing Asia's GVCs and has prompted a review of the effectiveness of the region's cherished trade-led growth model. This chapter examines the recent slowdown in developing Asia's trade and GVC participation by focusing on the following questions:

- What explains the rise of GVCs in Asia?
- Why have Asia's trade and GVCs slowed since the crisis?
- What are the prospects for latecomers?
- What affects firms in Asia joining GVCs?
- What public policies support GVCs?

1.2 The rise of 'Factory Asia'

GVCs are sometimes called 'production fragmentation', 'global production networks' or 'global supply chains', but these terms essentially refer to the same basic concept, with subtle differences. This type of sophisticated industrial organisation is different from the simple textbook notion of a single, large, vertically integrated factory situated in a country. It involves the geographical location of stages of production (e.g. design, production, assembly, marketing and service activities) in a cost-effective manner (Baldwin and Gonzalez 2014). Different production stages are increasingly located in different countries, linked by a complex web of trade in intermediate inputs and final goods. A lead company, often a multinational corporation such as Apple, Samsung or Toyota, co-ordinates the various production stages.

For example, the Toyota Prius – a hybrid electric mid-size hatchback car – for the US market was designed and assembled in Japan. However, some parts and components for the Prius are made by industrial suppliers in the People's Republic of China (PRC), Thailand and other regional economies, with Toyota co-ordinating the process. Toyota also undertakes global branding, marketing and after-sales service activities for the Prius.

GVCs have been an important feature of the world economy for decades. This pattern of international specialisation is intertwined with the international integration processes of globalisation and regionalisation. It is also underpinned by the corporate strategies of

multinational firms, technological advances (e.g. information, communications and transport technologies), developments in logistics, and falling barriers to trade and investment.

GVCs in the developing economies of Asia probably emerged during the 1980s in the clothing and electronics sectors, and have since penetrated a wide range of industries across the region, including consumer goods, food processing, automotives, electronics and machinery. The role of services in GVCs in East Asia, including engineering services, information technology services and professional services, is increasingly important but has been underestimated as a result of serious data problems.

A combination of factors influenced the spread of GVCs in developing Asia. One was the Plaza Accord of 1985, an agreement among advanced economies to manipulate exchange rates by depreciating the US dollar relative to the Japanese yen and the German Deutschmark. Its intention was to correct trade imbalances between the USA and Germany and the USA and Japan. Rising wages and other industrial costs in Japan induced its multinationals to use advanced manufacturing process outsourcing and 'just-in-time' manufacturing to create GVC production that criss-crossed East Asia. The Republic of Korea, Taiwan, Singapore and Hong Kong were part of the first wave of GVC activity. Other states in Southeast Asia soon followed suit.

A second factor that influenced the spread of GVCs was that developing East Asian economies pursued outward-oriented development strategies, taking advantage of cheap and literate labour, a booming world economy and a strategic geographical location. Central to such strategies was attracting export-oriented foreign direct investment (FDI), using incentives and export processing zones alongside gradual import liberalisation in the domestic manufacturing sector.

The third and probably the most important factor was the PRC joining the World Trade Organization (WTO) in 2001. WTO membership helped to consolidate and lock in the PRC's gradual economic reforms, which it had begun making in 1991 in an attempt to shift towards a more market-oriented economy. The rapid industrialisation of the PRC and its emergence as a regional manufacturing hub led to increased demand for parts and components from the rest of East Asia.

The structural transformation of developing East Asia from a poor, less developed, agricultural periphery region to a wealthy global factory is considered an economic miracle. The extent of developing East Asia's participation in GVCs is significantly greater than that of the rest of Asia and has spurred the region's global rise to coveted 'Factory Asia' status, with rapid economic growth over a long period (Athukorala 2011).

A simple and convenient proxy to illustrate GVC trade over time is share of world production network exports. Table 1.1 shows the shares of world production network exports of the advanced economies, developing Asia and other groupings of developing economies.

Developing Asia's share of world production network exports rose from an annual average of 28.5 per cent in 2001–04 to 41.4 per cent in 2009–2013 (Wignaraja 2016). The PRC is the leading player within developing Asia, with its annual average share rising from 13 per cent to 25 per cent between 2001–04 and 2009–2013. In the same period, the Republic of Korea's share rose from 4.2 per cent to 4.9 per cent, and the share of the ten member countries of the Association of Southeast Asian Nations (ASEAN) remained at just above 9 per cent. India and the rest of South Asia also saw an increase between the two subperiods, but their shares were less than 1 per cent in 2009–2013.

Table 1.1 Share of world production network exports, 2001–2013 (% averaged over subperiods)

	2001–2004	2005–2008	2009–2013
World	100	100	100
Advanced countries	**54.29**	**48.79**	**42.49**
United States	10.61	8.04	6.80
EU 28	32.30	30.90	27.60
Japan	11.12	9.61	7.90
Australia and New Zealand	0.26	0.24	0.19
Developing Asia	**28.48**	**35.49**	**41.40**
PRC	12.54	19.20	24.99
Hong Kong, China	1.26	0.96	0.58
Korea, Rep. of	4.16	4.89	4.85
ASEAN	9.56	9.31	9.36
India	0.45	0.60	0.84
Rest of South Asia	0.50	0.50	0.74
Central Asia	0.01	0.03	0.04
Latin America	**5.14**	**4.62**	**5.56**
Eastern Europe	**3.20**	**4.25**	**5.26**
Africa	**0.77**	**0.71**	**0.81**
Rest of the world	**8.12**	**6.14**	**4.48**

Note: PRC = People's Republic of China, ASEAN = Association of Southeast Asian Nations, EU = European Union.
Source: Author's calculations based on United Nations Comtrade (accessed October 2014).
Production network exports is defined as trade in parts and components using the gross trade approach of Athukorala (2011).

Developing Asia's figure for 2009–2013 puts the region on a par with the advanced economies, which saw a fall in their share from 54.3 per cent to 42.5 per cent. All the advanced economies saw falling shares during the 2000s, but the EU, with 27.6 per cent, had the largest share of world production network exports in 2009–2013, while Japan had 7.9 per cent and the USA 6.8 per cent. Japan's figure seems understated, as Japanese firms are involved in GVCs in other developing Asian economies. Interestingly, developing Asia's share in 2009–2013 was significantly higher than those of Latin America, Eastern Europe and Africa.

1.3 Slowing trade and global value chains in Asia

Trade-led growth, partly through GVCs, has powered developing Asia's economic growth and prosperity in the past several decades. At the same time, increased connectivity through participation in GVCs has made countries and firms more economically interdependent, with implications for developing Asia's performance in GVCs. There is an increased risk that unexpected global, national and even local events could disrupt GVCs and cause a domino effect, leading to system-wide failure (OECD 2013).

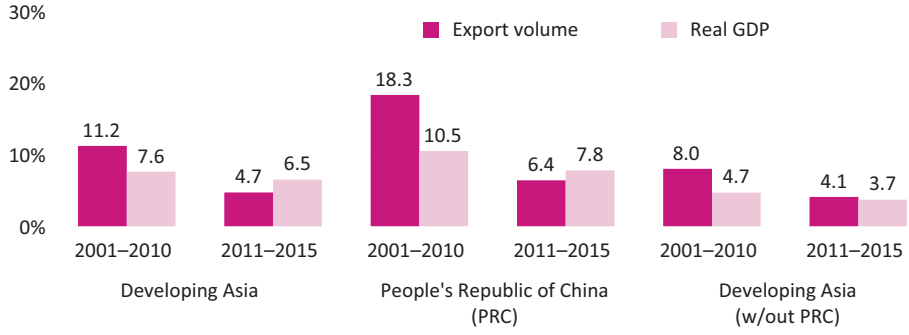
A structural break in the relationship between trade and GDP in developing Asia seems to have occurred recently. Developing Asia's trade grew faster than its GDP until the 2008–09 GFC, after which trade growth slowed such that it is at a lower rate than growth in GDP. As Figure 1.1 shows, the ratio of developing Asia's real export growth to real GDP growth halved from 1.5 in 2001–10 to 0.7 in 2011–15. The ratio for the PRC fell from 1.7 to 0.8, while that for developing Asia excluding the PRC fell from 1.7 to 1.1. Projections suggest that the ratio of developing Asia's real export growth to real GDP growth is likely to fall further to 0.3 in 2016.

The export slowdown is pervasive across developing Asia. Of 36 developing economies in Asia for which data were available, 20 had slower export volume growth in 2011–15 than in 2001–2010. This includes most of the region's largest traders: the PRC, the Republic of Korea, India, Kazakhstan, Malaysia, Pakistan, Singapore, Thailand, Taipei (China) and Hong Kong (China). Meanwhile, Cambodia, Indonesia, the Philippines and Viet Nam showed stronger export growth.

We need to comprehend why developing Asia's trade has slowed. A popular explanation is the lingering effects of a shock in external demand. Lingering weak import demand in advanced countries for developing Asian goods, related to sluggish domestic investment, partly explains developing Asia's trade slowdown. There are differences in demand for Asian imports among advanced economies. Annual real growth in US imports from developing Asia picked up modestly from 5.1 per cent in 2001–10 to 5.8 per cent in 2011–15, indicating recovery in the US economy. Meanwhile, growth in Japan's imports from developing Asia slowed from 8.1 per cent in the earlier period to 1.2 per cent in the later, and that of the EU slowed from 7.2 per cent in 2007–2010 (a shorter period because of a lack of import price indexes) to 0.7 per cent in 2011–15. A slightly weaker than expected recovery in advanced countries, especially lacklustre growth in Europe, adds to the headwinds hitting Asia's trade. This effect seems to be temporary and likely to be reversed as the advanced economies recover.

Macroeconomic or cyclical factors clearly explain part of the export slowdown in developing Asia, but they are not the whole story. Several structural factors with a more permanent effect are notable, but so far it is difficult to disentangle these factors and

Figure 1.1 Export and GDP growth



Note: Developing Asia refers to the Asian Development Bank (ADB) developing regional members.Developing Asia's volume of exports were estimated using annual weights of exports of goods and services in constant 2005 US dollars.
Sources: ADB estimates are based on data from the International Monetary Fund (IMF) World Economic Outlook (April 2016), the World Bank World Development Indicators (WDI) online database (accessed 2016), and the ADB Asian Development Outlook 2016 (2016).

establish their individual influence on Asia's export slowdown.

First, after years of extraordinary growth, the PRC is naturally arriving at a new normal growth pattern that is less dependent on investment and exports. This structural shift in the PRC is linked to rising wages and industrial costs, real exchange rate appreciation and a declining working-age population, among other factors. The PRC's demand for primary commodity imports and intermediate imports for its factories has fallen, causing ripples throughout developing Asia and the global economy.

Second, FDI flows to developing Asia – much of which has historically gone into the tradeable goods sector – have slowed. FDI has recently contributed less to the investment ratio in developing Asia than in previous years and may be less of a catalyst for domestic investment in the same fields. FDI inflows as a percentage of gross fixed capital formation in developing Asia fell from 9.9 per cent per year in 2001–10 to 6.4 per cent per year in 2011–14. Furthermore, the region risks being deprived of critical ingredients for productivity and trade, including technology, skills and connections to overseas markets. The slow in FDI flows is linked to the PRC's falling attractiveness as an investment destination, rising industrial costs and a bout of risk aversion in relation to emerging markets.

A third, closely related, reason is slowing growth of GVCs, affecting trade in intermediate goods in the region. Imports of parts and components as a proportion of manufacturing exports – a crude proxy for GVC trade – fell in developing Asia from 66.6 per cent in 2000 to 51.0 per cent in 2015 (see Table 1.2). This reflects a fall in the PRC's figure from 62.5 per cent to 37.8 per cent and the Republic of Korea's from 49.5 per cent to 39.6 per cent, as well as a rise for other regional economies from 62.9 per cent to 73.4 per cent. These include Hong Kong (China), the ASEAN countries, India and the rest of South Asia. Developing Asia is highly reliant on the PRC as the main regional assembly hub in GVCs, particularly in automotives, electronics and machinery. Some other regional economies, however, are starting to play an increasing role in GVCs.

Table 1.2 Imported intermediate goods as a proportion of manufacturing exports (%)

	2000	2015
Developing Asia	60.6	51.0
Developing Asia (excluding the PRC)	60.0	73.4
Developing Asia (excluding the PRC and the Republic of Korea)	62.9	73.4
PRC	62.5	37.8
Hong Kong (China)	55.9	73.7
Korea, Republic of	49.5	39.6
India	56.9	91.5
ASEAN countries	67.6	64.9

Source: Author's calculations

Fourth, trade protectionism has been rising in the post-crisis era. Decades of trade liberalisation has resulted in historically low import tariffs in developing Asia, averaging 7.9 per cent in 2014. However, there has been a rise in murky non-tariff measures such as anti-dumping duties, safeguards, pre-shipment inspection, sanitary and phytosanitary measures, technical barriers to trade, and export subsidies. The number of non-tariff measures imposed on developing Asia by outsiders more than tripled, from 2,263 in 2000 to 7,190 in 2015. In the same period, the number imposed by developing Asia more than quadrupled, from 534 to 2,217.

1.4 Prospects for latecomers in global value chains

While developing Asia's exports and GVCs have slowed, heightened economic pessimism about this trend seems misdirected. A gradual recovery in the advanced economies

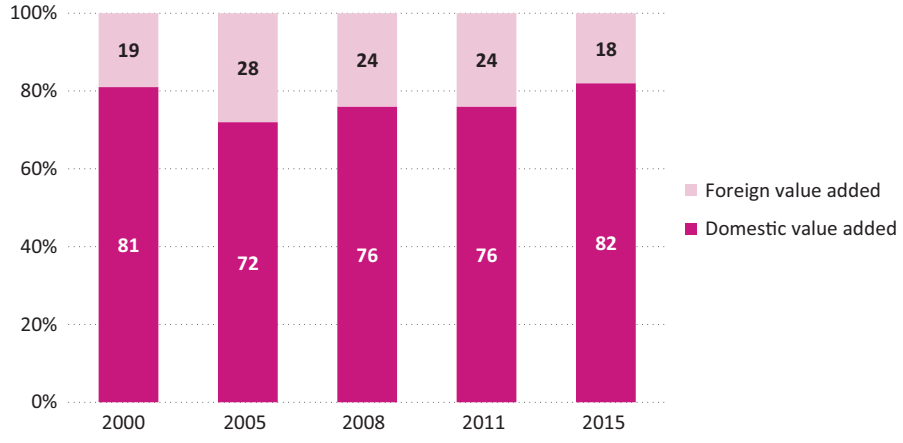
could stimulate new sources of export and GVC growth in developing Asia. Likewise, rebalancing in the PRC will open up new trading opportunities for that economy and the region's other dynamic economies. Several developments could encourage new sources of export growth.

One is that industrialisation in the PRC is deepening and GVCs are growing local roots. Rising wages and other factor costs are encouraging a deepening of industrialisation in the PRC, one aspect of which is GVCs growing more local roots. Structural shifts have occurred in the value-added content of gross exports since 2000. After an initial fall, there was a steady rise in domestic value added, indicating that more intermediate goods are being produced domestically rather than imported. As Figure 1.2 shows, the domestic value added as a proportion of gross manufacturing exports fell from 81 per cent to 72 per cent between 2000 and 2005, following the PRC gaining membership of the World Trade Organization in 2001. Between 2008 and 2015, this figure rose from 76 per cent to 82 per cent.

The industrial deepening now visible in the PRC and reflected in higher value added and the building of innovation capability was first seen in Asia in Japan, and subsequently in the Republic of Korea. This implies the development of more technologically sophisticated regional value chains and related services in East Asia, which could propel a new phase of regional and global trade growth. The spread of robotics, advances in miniaturisation of technology, developments in internet connectivity, process-centred research and development, and various organisational innovations are increasingly likely to feature in GVCs in this new phase of trade growth.

Another development is that some developing economies are well positioned to benefit from growth moderation and structural shifts in the PRC. Rising costs have eroded the PRC's formidable export competitiveness as a manufacturing centre for low-cost production. Since about 2007, wages in the manufacturing sector have been rising across the PRC in response to a tightening labour market. Diminished worker preferences for factory work (for example, with increased demand for leisure), subsidies making agricultural work more attractive and diminishing differences between the PRC's west and east, the growth of medium-sized cities and a decline in the working-age population all underlie this trend. Furthermore, the real exchange rate

Figure 1.2 Value added as a proportion of gross manufacturing exports in the PRC



Source: ADB Multi-Regional Input Output Table Database, 2016 (accessed 30 August 2016).

has appreciated, further eroding the country's export competitiveness. As a result, it is becoming more difficult for the PRC to compete on wages against lower-cost economies in labour-intensive low-skilled manufacturing sectors such as clothing and textiles (Deloitte 2014). Some of the PRC's GVC production – particularly in labour-intensive segments – is beginning to shift to lower-cost countries such as Viet Nam, Thailand, Cambodia, India and Bangladesh (Abiad *et al.* 2016). These Asian economies are increasingly open to export-oriented FDI and offer relatively low wages with reasonably good labour productivity.

Furthermore, services are the largest sector in most economies in developing Asia and trade in services is growing. However, trade in services may not be properly reflected in international trade statistics because they are difficult to measure. For instance, one problem in relation to GVCs is how much trade in services is reflected in value added in goods trading, for which there is a paucity of evidence. In addition, the potential for faster growth in trade in services is limited by trade restrictions, skills gaps and problems with internet connectivity. GVC-related services, digital trade, professional services and financial services are areas with potential for trade growth. The PRC is likely to further expand its role as an exporter and importer of services (Constantinescu *et al.* 2016). Over time, the PRC is likely to develop as a regional GVC-related services hub alongside its role as a regional manufacturing and assembly hub in GVCs. India is also likely to expand its trade in information technology services and witness the emergence of GVC-related services and other commercial services exports. ASEAN and South Asian economies have opportunities to further develop GVC-related services, tourism and other commercial services exports.

To realise these trading opportunities in GVCs, firms in latecomer countries will need to adjust business strategies and governments will need to develop supportive national policies. Developing Asia's rich development experience offers some insights into these issues, and these are considered below.

1.5 Entry of firms into global value chains

The role of firms in GVCs in developing Asia is a new frontier in economics. While there are insightful case studies of the organisational aspects of individual firms in GVCs in developing Asia, little research attempts to generalise the findings of case studies to multiple firms though econometric analysis. The recent availability of microdata from enterprise surveys has enabled the identification of characteristics of firms that have successfully joined GVCs in developing Asian economies.

A recent study conducted econometric analysis on about 6,000 firms in ASEAN economies to examine the factors affecting firm-level entry into GVCs (Wignaraja 2015). It underscored the notion of firm heterogeneity in GVCs (i.e. that firms are considered different in terms of efficiency and fixed and variable costs when involved in GVCs). Several different models were estimated, including one for all manufacturing firms. The findings indicate that some firms are better placed than others to join GVCs and that these differences are linked to various factors.

One is that the size of a firm affects the probability of its joining a GVC. This is indicated by the coefficient on firm size being positive and significant in the all-manufacturing firms model. Being a big firm naturally creates advantages to participating in supply chains, due to a larger scale of production, better access to technology from abroad, and the ability to pay higher wages for skilled labour and to spend more on marketing. Firm growth and working with large firms are key for participating in GVCs. Therefore,

smart business strategies, such as mergers, acquisitions and forming business alliances with multinationals or large local business houses, are rational approaches.

Another factor is that, under some circumstances, nimble small and medium-sized enterprises (SMEs) can also join GVCs. Adding a size squared variable in the all-manufacturing firms model was useful in clarifying the size effect. The coefficient on size squared is negative and significant, implying a non-linear relationship. By clubbing together in industrial clusters, SMEs can overcome some of the disadvantages of being small and rely on the benefits of interdependence. Small firms located in clusters can jointly finance a training centre or a technical consultant to upgrade skills. Business associations can facilitate clustering by mitigating trust deficits to encourage co-operation between SMEs, and by co-ordinating collective actions for cluster formation. For instance, major industrial clusters are located in Viet Nam, near Hanoi and Ho Chi Minh City, where large firms are surrounded by thousands of SME suppliers and subcontractors making garments, agricultural machinery and electronics goods. To overcome the disadvantages of firm size, SMEs can also embark on niche market strategies.

However, firm size is not the whole story of entry into GVCs in ASEAN economies. Efficiency and access to finance also influence the probability of joining GVCs. This is indicated by positive and significant coefficients on the variables capturing technology, skills and access to credit in the all-manufacturing firms model. Firms that have acquired higher levels of technological capabilities are more likely to succeed in GVCs. This requires firms to undertake conscious investments in skills and information to operate imported technologies, rather than simply 'learning-by-doing'. Having higher levels of human capital, particularly literate secondary-level educated workers and tertiary-level educated managers, helps with technology absorption and formulating effective business strategies. In the presence of capital market imperfections, well-organised firms with collateral and an established record with commercial banks are more likely than others to join GVCs.

1.6 Public policies for global value chains

A peculiar feature of GVC trade is that intermediate goods can cross many national borders for processing before final assembly occurs. Overall trade costs largely determine entry into GVCs and public policies influence such costs. Successful entry of firms into GVCs in developing Asia was typically supported by outward-oriented, market-friendly development strategies that provided a business environment with low trade costs.

While there are subtle differences in the strategies pursued in developing Asia, successful economies commonly emphasised attracting export-oriented FDI, along with gradually liberalising imports. An essential ingredient was an FDI strategy based on proactive investment promotion (including overseas representative offices), competitive investment incentives (including tax holidays) and export processing zones (EPZs). FDI brought capital, marketing connections and technology transfer.

Investing in world-class and cost-competitive physical infrastructure – ports, roads from EPZs to ports, airports and a reliable electricity supply – is another success factor. Hard infrastructure was complemented by soft infrastructure (e.g. efficient trade facilitation, modern customs procedures and logistics) to keep trade costs low.

Investing in education and training at all levels, including tertiary technical education and firm-level training, improved labour productivity. The coverage and quality of

business support services was also important. Better and more affordable types of technical, marketing and professional services facilitated firm growth and entry into GVCs (especially for SMEs). A comprehensive financial system (with specialist products and institutions geared to industry) ensured access to finance at reasonable interest rates. Macroeconomic management was improved and the authorities intensified the use of macroprudential policies and strengthened oversight of corporates and financial institutions.

More controversial perhaps is resorting to industrial policies to support the entry of particular sectors or firms into GVCs. A few governments, particularly in East Asia, supported designated sectors through industrial policies (e.g. import restrictions, local content rules, directed credit and export subsidies). While industrial policies sometimes encourage technological development and joining GVCs, costly failures have been cited in the literature. Some examples include the Republic of Korea's Heavy-Chemical Industry Drive, Malaysia's National Car Project (Proton) and the PRC's home-grown 3G mobile technology (TD-SCDMA). Much debate still surrounds the circumstances under which industrial policy has created GVCs in East Asia.

1.7 Conclusions

While trade and GVCs in developing Asia have slowed since the financial crisis, it seems premature to write off the region's trade-led growth model centred on GVCs. Some modification of the model seems inevitable, however, in a sluggish world economy characterised by lacklustre recovery in advanced economies, growth moderation in the PRC and rising protectionism. It will be some time before the future contours of the region's modified growth model become visible.

GVC activity will remain important in developing Asia's new growth model. New technologically sophisticated regional value chains and related services in East Asia are likely to propel a new phase of regional export growth. In addition, some well-positioned developing economies may replace the PRC in segments of GVCs as global demand rises for products ranging from clothing to consumer electronics. Furthermore, GVC-related services, digital trade and other commercial services are potential areas for regional export growth.

Developing Asia's rich GVC experience offers valuable lessons for industrial latecomers in the developing world. First, participating in GVCs offers a fast-track means to attain higher levels of economic development. Second, it is crucial to focus on the role of firms in joining GVCs. The spotlight needs to be turned on mergers and acquisitions for firm growth, industrial clustering for SMEs, the process of building technological capabilities, and improving access to industrial finance. Third, continuity with deep policy reforms provides a supportive business environment for GVCs.

Developing Asia's experience underlines that there is no 'one-size-fits-all' approach to helping latecomers to join GVCs. Smart business strategies, facilitating business associations and supportive national policies are all useful ingredients, while firms and governments working together is essential to tailor these ingredients to national circumstances. Mainstreaming GVCs into policy dialogues with aid donors and multilateral development banks will help to generate development finance for policy reforms and infrastructure development.

Note

1 Advisor, Economic Research and Regional Cooperation Department, Asian Development Bank. The views expressed here are solely those of the author and should not be attributed to the Asian Development Bank.

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Chapter 2

Scale, Distance, and Remoteness in Global Value Chains

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Abstract[5]

This paper explores how country size and geographical distance to trading partners mediate global value-chain (GVC) participation and upgrading potential. It develops an index of GVC participation to estimate the effects of size and remoteness on GVC participation, as measured by export performance in several goods-producing industries that have been important in the rise of GVCs (electronics, automotives, and apparel, footwear and textiles). Invariably, geographical distance exerts a strong influence on GVC participation, due in part to the costs of co-ordination and a reduction in the exchange of tacit knowledge arising from interactions between buyers and sellers; distance can, therefore, reduce the potential for 'learning by exporting'. Although small states may find it easier to insert themselves into GVCs through specialisation in a narrow range of tasks, some of the challenges of distance are not easily overcome. Nevertheless, the econometric results presented in this chapter show how enhancing connectivity increases GVC participation. This aspect of participation is of particular importance, as connectivity can transform not only conventional business models but also how buyers and sellers interact. Strong interventions are required to foster exposure to high-value activity hubs that specialise in research and development and marketing, with targeted skill development and active linkage development, particularly for small remote economies.

2.1 Introduction

The rise of global value chains (GVCs) has been offered up as the perfect example of technology overcoming geography. Containerisation has slashed transport costs, and information and communications technology (ICT) is facilitating the fragmentation and segmentation of work and its co-ordination and monitoring at a distance (Dicken 2010). Vertical specialisation within GVCs suggests that for some countries, comparative advantage can be won in extremely specialised niches in GVCs. Thus, new trade opportunities are arising through the overcoming of a variety of barriers to network entry: minimum-scale economies in production, small market size and underdeveloped national systems of innovation.

One view suggests that, with fragmentation, peripheral locations have new trade opportunities that may enable them to more easily integrate with global hubs of economic activity – 'Factory USA', 'Factory Europe' and 'Factory Asia' – because they can specialise in trade in very narrow product classes and tasks (Lanz *et al.* 2011). They can focus on the export of intermediate goods and services, earning the benefits of trade without

waiting for design capabilities or demanding domestic consumers to emerge (Gereffi and Sturgeon 2013). Participation in GVCs can open conduits for technological learning, process improvements and product upgrading (Humphrey and Schmitz 2002; Pietrobelli and Rabellotti 2011; World Bank 2015). For evidence we need only look to the integration of countries such as the People's Republic of China (PRC), Mexico, the Philippines and Turkey into production networks driven by 'lead' firms based in Europe and the USA (Baldwin 2013).

While we see this view as having merit, it is overly simplified. We agree that GVCs can provide avenues for rapid industrial upgrading and offer opportunities for economic development strategies that extend beyond openness, institutional reform and trade facilitation. However, there are also obvious and significant barriers to upgrading in GVCs, the most important of which stem from the geographical separation of high value-added business functions, such as design and marketing, from routine functions such as manufacturing and call centre-based customer service. Given this, upgrading may be rapid at first but stall in the long run.

Even for countries that are advantaged in regard to size and location, the benefits of GVC participation are far from automatic. As a result of widespread realisation of this, the focus of GVC-oriented industrial policy has shifted to examine questions of how to foster indigenous innovation that leverages the capabilities and knowledge-intensive intermediate inputs resident in the global supply base (Gereffi and Sturgeon 2013). In this chapter, we explore the relationship between size and distance and GVC participation – as well as changes over time – through the concept of 'remoteness', an enriched concept of distance that includes factors such as the quality of logistics, common languages and broadband internet penetration. This last indicator is of particular importance, as it can transform not only conventional business models but also how buyers and sellers interact.

2.2 Global value chains and economic development

Firm-level efforts to learn and benefit from and upgrade as a result of participation in GVCs may not be effective (Morrison *et al.* 2008), and national innovation systems, including certifications and standards, metrology, testing and quality (SMTQ) systems, may not be sufficient to meet the requirements of foreign buyers or multinational corporation (MNC) affiliates (Pietrobelli and Rabellotti 2011). Since GVCs fragment production systems spatially across vertical business functions, assemblers and suppliers of intermediate inputs may never be exposed to higher value-added functions such as research and development (R&D) and marketing, becoming stuck in subservient roles. Furthermore, even when nationally embedded capabilities are high, openness and trade facilitation cannot overcome all obstacles. This realisation is beginning to stimulate new efforts to foster increased firm-level networking and new forms of private-sector development by governments.

For some countries, the main obstacles to joining and benefiting from GVCs are the same as those that constrain trade more generally, such as: high duties and tariffs, poor trade infrastructure and weak enforcement of business contracts. When these obstacles are removed, the thinking goes, countries can participate in the global economy according to their merits, even when vertical specialisation is optimally narrowed to the point of 'trade in tasks' (WTO and IDE-JETRO 2011). However, research has shown that GVCs are multifaceted and have different characteristics and dynamics, and therefore offer different opportunities for economic development, technological learning and industrial upgrading.

There are different types of GVCs, which vary according to end markets (Berger *et al.* 2005), the technical features of transactions (Gereffi *et al.* 2005), the capabilities in industry-specific and geographically specific supply bases (Ponte and Sturgeon 2014), and the norms of business systems in the home countries of lead firms (Fujimoto 2007). Perhaps most importantly, GVCs vary according to prevailing industries and value-chain segment (Sturgeon and Memedovic 2010). This is, in part, because 'technology – the engineering of the product – dictates the way in which different stages of production fit together' (Venables and Baldwin 2011).

While these differences are governed by sets of criteria that are often too technical, complex and dynamic for policy-makers to grasp and develop appropriate policy responses to[6], this specificity nevertheless opens up a vast field for industrial and innovation policy that is only beginning to be tapped. If there is no single path for upgrading via GVCs, then multiple paths must be considered based on the available evidence. Because most economic statistics are country based, researchers and policy-makers must be creative and innovative in generating information relevant for the policy-making process. Given this, we try to isolate the effects of basic structural characteristics such as size and distance, to provide a starting point for more nuanced policy-making regarding small and remote economies' GVC participation. Before embarking on that exercise, however, we consider briefly the literature on the effects of size and distance on economic development.

2.3 Size and distance: their importance in economic development, trade and global value chains

Small states face clear disadvantages when engaging with the global marketplace because of their economic size. Of the 49 least developed countries (LDCs), 39 are small (Guillaumont 2007). Small states tend to have higher business costs as a result of a combination of diseconomies of (small) scale and high transaction costs (Winters and Martins 2004). Moreover, many small states have been found to be more vulnerable to economic shocks and less resilient once they occur, because they are unable to rely on intra-state transfers to cushion blows from disasters that affect one region of a larger country and not others (Alesina *et al.* 2005).

The new trade opportunities that have begun to arise as a result of the global fragmentation of production, as manifested in GVCs, holds promise for small states because they accommodate specialisation in narrow business functions, obviating the need for a small country to develop all aspects of an industry. By combining specialisation with global market access, GVCs help small countries link to demanding external buyers and exploit otherwise unachievable economies of scale. Small labour markets can be connected with complementary external capabilities and small markets with larger export markets. As Figure 2.1 indicates, small countries have relatively high levels of GVC participation (right), but the relationship is weaker than for trade overall (left).

However, some activities within value chains, particularly high-volume assembly of standardised products, require substantial scale to achieve cost competitiveness. Others require access to deep labour pools, often with highly specific knowledge and expertise. Moreover, the modes of integration common in GVCs tend to come with requirements for tight co-ordination and control, and these requirements are affected by both trade infrastructure and distance to trading partners. Market size drives the location of production in many instances, giving large countries an advantage when instituting laws regarding investment attraction (including free trade zones), local content and

joint venture requirements, R&D spending schemes and so on.

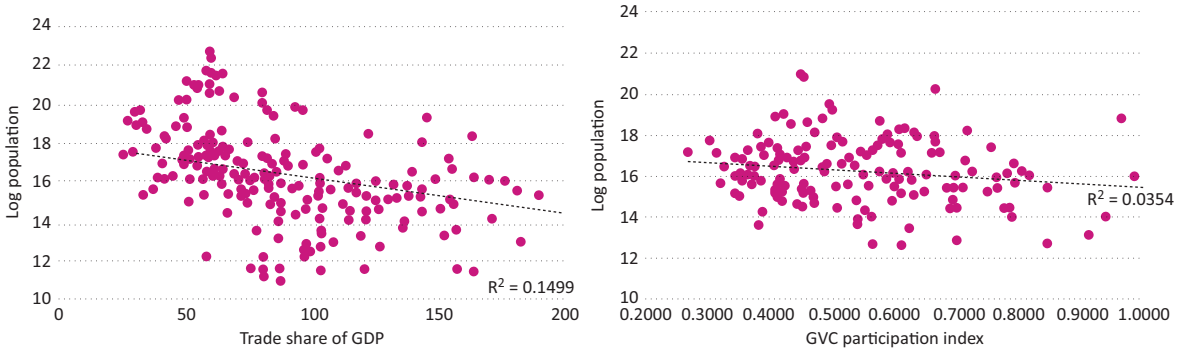
It is also possible that fragmentation in GVCs can harm small states, depending on the process of GVC engagement. For example, successful start-ups from small remote states tend to be acquired by larger multinationals, with core capabilities subsequently shifted to locations in the hub country to reduce transaction costs. While this dynamic may benefit the immediate entrepreneurs, it is detrimental to the accumulation of scale, agglomeration economies (i.e. clusters), productivity gains and broader-based industrial capabilities in the small remote state.

2.4 Does distance matter?

Challenges increase when small size is combined with large distances to markets. While it may help if countries located far from markets are part of larger political or regulatory arrangements, these cannot fully compensate for the absence of the deeper political and cultural affinities that come with proximity and regional integration. Distance slows transport and raises transport costs for people, goods and communication. This isolation decreases the likelihood that a state can perform a specialised, high value-added role; these tend to be performed in a contiguous regional economy, which is more likely to have regulatory integration and the relatively easy and timely flow of people, goods and capital. Indeed, the importance of distance explains why most production networks are regional rather than global, structured around a discrete regional 'core' (Dicken 2010).[7] Figure 2.2 (which plots GVC participation against an enhanced index of remoteness[8]) suggests that global proximity is hugely important for GVC participation – more so than for country size.

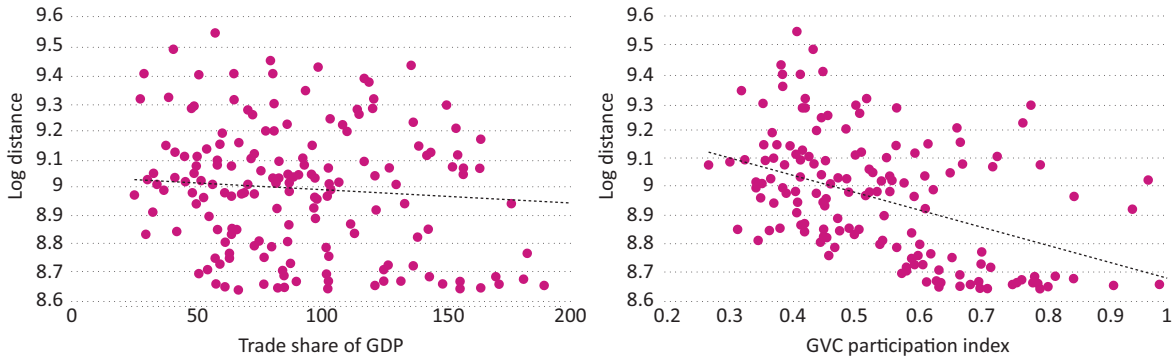
In brief, distance has two major influences on how countries connect to GVCs. First, it impacts the cost and time required to get goods to their next stage of production and to receive inputs from their previous stage. Most obviously, distance matters because trade costs matter. The disadvantages of small states (small shipment sizes and inadequate trade infrastructure) are amplified for remote states because of the higher transport costs and the many other disadvantages that come with long transit times for goods (exposure to humidity and high temperature, in-transit obsolescence, price changes, etc.). Less obvious, perhaps, is the time aspect of logistics, which has become increasingly important within GVCs as the

Figure 2.1 Relationship between country size and overall trade (left) and GVC participation (right)



Source: Population and trade as a proportion of GDP from WDI; GVC Participation Index calculated by authors based on data from the United Nations Conference on Trade and Development (UNCTAD)-Eora GVC database, which includes trade in value added from services.

Figure 2.2 Relationship between distance from markets and overall trade (left) and GVC participation (right)



Source: Authors' calculations based on data from Centre d'Études Prospectives et d'Informations Internationales (CEPII) and the UNCTAD-Eora database.

'just-in-time' practices of 'lean production' and 'fast supply chains' spread into more industries. Thus, while geographically peripheral locations may not be entirely shut out of large-scale production of standardised goods, they are very likely to face challenges in a growing category of products: lower-volume, higher-mix, higher-value goods that require substantial delivery flexibility and timeliness.

Second, distance reduces the efficiency of co-ordination and collaboration because it creates barriers to the direct, face-to-face exchange of tacit knowledge. The reduced likelihood of these interactions has the most disadvantageous effect on higher value-added activities in the value chain, such as design and advanced services. While not as sensitive to transport costs, many types of trade in services also benefit from proximity. This is the case in particular for complex, non-standard services where contact with consumers and between buyers and suppliers in the value-chain benefits from face-to-face interaction to exchange tacit knowledge and uncodified information.

More recently, however, previously unimagined business models[9] have arisen to leverage and arbitrage globally 'distributed' capabilities, labour markets, regulatory regimes and markets. Given these developments, there are suggestions that pure distance matters less in contemporary trade within GVCs. This is because within spatially and organisationally fragmented GVCs, high levels of monitoring and control, more precise co-ordination of logistics, and the transfer of highly complex design parameters, requirements and instructions are enabled by the computerisation of design and manufacturing processes, low-cost data communications and improved software to manage the flow of information both within and between enterprises. As a result, distance has become less of a hindrance to segmenting and relocating business functions as the international trading system has become more dynamic, flexible, responsive and complex.

Internet retailing allows individual shoppers and businesses to assess and purchase the wares of sellers the world over. R&D and specialised technical tasks have become subject to arbitrage, as states are being asked to compete with one another for MNC investments in new international technical centres (Sturgeon 2016). Companies can build sophisticated products based on globally available inputs and technology platforms. What we are witnessing in the new 'digital economy' is not a simple fragmentation of existing industrial systems but a basic

transformation of how buyers connect to sellers, how work is accomplished, how production is organised and how distribution is co-ordinated.

2.5 Overcoming distance

The discussion above highlights the fact that while proximity matters most for GVC participation, simple considerations of geographical distance may be becoming less relevant given new forms of engagement arising from new business models. Consequently, a more nuanced consideration of proximity and distance must take into account to a greater extent the ways in which GVCs operate. This includes differentiating between the 'arms-length' command and control relationships between lead firms and producers at the lower end of value chains, as well as the relationally dependent exchange of highly differentiated products, requiring flows of complex knowledge. Thus, for GVCs, our understanding of distance needs to expand to cover aspects of agility (flexibility and speed to market) as well as measures that capture the degree to which trading partners have the capacity for complex exchanges. While severe data limitations, especially for trade in services (Low 2016), currently inhibit fully nuanced measures for GVC participation, we have taken an initial step by constructing a measure of remoteness to help explain the determinants of GVC participation with a little more precision.

We did this in a two-step process. First, we tested several factors in an empirical model of the determinants of GVC participation. Based on the results from the model, we then constructed a GVC Remoteness Index (GVC-RI). These two steps are described below.

2.5.1 Step 1: empirical model of the determinants of GVC participation

In this first step, we developed a gravity model for GVC trade, focused on assessing the significance of determinants of participation in trade of GVC products. We identified a set of factors that we hypothesised were relevant for determining proximity in a GVC context. These factors are described below (details on the variables, their definitions and their sources are available in Annex 2.1).

- **GDP:** this measures the size of an economy; all things being equal, we expect larger economies to have more capacity to engage in GVC trade.
- **Distance:** this is a pure distance indicator, measured as the weighted average geographical distance with the rest of the world; more proximate countries should be more likely to engage in GVC trade with each other.
- **Logistics capabilities:** this is measured by the World Bank's Logistics Performance Index (LPI). Countries with higher-quality logistics (trade facilitation, customs, physical logistics infrastructure) should be in a better position to participate in GVC trade as a result of lower costs and faster response times.
- **Common language:** this measures trading partners where at least 9 per cent of the population speaks the same language as its other trading partners. Countries that have a common language with trading partners should trade more and be in a position to engage in more complex exchanges of higher value-added activities in GVCs.
- **Time zone:** countries in time zones longitudinally close to trading partners (regardless of east–west distance) are expected to be able to manage operations and therefore GVC trade more effectively (regardless of north–south distance).
- **Broadband access:** this is measured by the number of broadband subscribers per 100 inhabitants, as published by the International Telecommunications Union (ITU). Access to high-quality broadband is increasingly critical for global connectivity and affects the degree to which a firm

communicates with buyers and suppliers in the value chain. While data on trade in services are too poor to include services in our measure of GVC participation, we posit that broadband access is equally important to co-ordinated trade in GVC goods.

To assess how the determinants of goods traded in GVCs differ from those of trade in non-GVC goods, we measured bilateral trade flow using mirror statistics from the UN Comtrade database,[10] following the Harmonised System (HS) classification system at 6 digits of disaggregation (around 5,040 product lines). The sample covered 132 countries from 1996 to 2013, representing more than 95 per cent of world trade flows during that period.

We identified the goods that are usually traded in GVCs by using the classification introduced by Sturgeon and Memedovic (2010), which was further refined and updated for public use by the World Bank in 2016.[11] Following this approach, HS codes are identified for being GVC-traded codes, with the remaining codes classified as non-GVC traded. Dummy variables were constructed to estimate total GVC exports and non-GVC exports, intermediate GVC exports and final GVC exports. In addition, using the same classification source, we identified GVC goods within five sectors that were most intensively traded in GVCs: electronics, automotives, and apparel, footwear and textiles. To explore the main determinants for a country's involvement in GVCs, we estimated a gravity model, where the traditional set-up was modified to include modern notions of proximity (remoteness), as described above. The gravity model estimation is based on the following structure:

$$\begin{aligned} &GVC\ Exports_{o,d,t} \\ &= \alpha + \beta_1 logGDP_{o,t} + \beta_2 logGDP_{d,t} + \beta_5 logITU_{o,d,t} \\ &+ \beta_3 logDIST_{o,d} + \beta_4 LANG_{o,d} + \beta_6 logLPI_{o,d,t} \\ &+ \beta_7 logTZDIFF_{o,d} + \gamma \boldsymbol{X}_{o,d,t} + \delta_o + \delta_d + \delta_t + u_{o,d,t} \end{aligned}$$

where $\boldsymbol{X}$ is the vector of control variables.

Table 2.1 shows the results using different specifications of the previous equation. In general, the results are robust to different specifications of the model. We included the *ITU* and *LPI* variables in two different ways. First, for each of these variables we included the simple average between the origin and destination country. Second, we included the origin and destination value of *ITU* and *LPI* as explanatory variables.

The results show clear and in most cases significant correlations between the measures considered for remoteness and GVC products. What is striking, in most cases, are the differences in results between products traded in the GVC industries versus those not classified as GVC products. While both GDP (positively) and distance (negatively) show strong, significant associations with exports, the coefficients are markedly higher for GVC exports.

Sharing a common official language with trading partners is significant and positive for GVC products but not for non-GVC products, reinforcing the notion that ease of communication, which may facilitate the exchange of tacit knowledge, is important for co-ordination in GVCs. Similarly, broadband access (of the origin country only[12]) appears to matter for GVC exports but not for non-GVC exports, while logistics performance (also of the origin country only) is strongly positively associated with GVC exports but (perhaps surprisingly) negatively associated with non-GVC exports.

Finally, turning to sectoral results, we find some differences across the GVC industries, often in line with expectations. The automotive industry stands out from the others in being more regionally oriented and, therefore, more reliant on physical distance measures and regional integration, and less on logistics, language and broadband, as expected; apparel and footwear are more reliant on logistics and broadband access; and electronics (with

Table 2.1 Estimation of the gravity model

	Log of non-GVC exports	Log of GVC exports	Log of electonics GVC exports	Log of autos GVC exports	Log of apparel GVC exports	Log of footwear GVC exports	Log of textiles GVC exports
l_gdp	0.02***	0.36***	0.30***	0.11***	0.50***	0.12***	0.26***
	(0.01)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Log of distw	–0.07***	–0.65***	–0.62***	–0.59***	–1.14***	–0.90***	–0.81***
	(0.02)	(0.06)	(0.06)	(0.08)	(0.07)	(0.09)	(0.08)
1 for common official of primary language	0.03	0.71***	0.68***	0.55***	0.62***	0.53***	0.56***
	(0.02)	(0.07)	(0.08)	(0.09)	(0.09)	(0.11)	(0.10)
Log of tz_diff	–0.02	0.22***	0.24***	0.05	0.33***	0.15**	0.12*
	(0.01)	(0.04)	(0.05)	(0.06)	(0.06)	(0.07)	(0.06)
1 for contiguity	–0.11*	1.29***	0.92***	1.35***	1.19***	1.11***	1.23***
	(0.06)	(0.19)	(0.21)	(0.23)	(0.23)	(0.25)	(0.23)
1 for pair ever in colonial relationship	0.02	0.10	0.32**	0.38**	0.57***	0.81***	0.32*
	(0.05)	(0.15)	(0.16)	(0.18)	(0.17)	(0.19)	(0.18)
1 if origin is GATT/WTO member	0.04*	0.07	0.19**	–0.02	–0.02	–0.23**	–0.14
	(0.02)	(0.06)	(0.08)	(0.09)	(0.08)	(0.10)	(0.10)
1 if destination is GATT/WTO member	0.20	0.15	–0.75	0.29	1.69***	2.78***	0.85
	(0.13)	(0.37)	(0.49)	(0.63)	(0.57)	(1.02)	(0.76)
1 for regional trade agreement in force	–0.08***	0.63***	0.30***	0.82***	0.85***	0.25**	0.69***
	(0.02)	(0.07)	(0.08)	(0.10)	(0.09)	(0.11)	(0.10)
Log of total exports	1.03***	0.52***	0.52***	0.57***	0.41***	0.45***	0.49***
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Log of itu_o	–0.01	0.06***	0.04***	–0.04***	0.17***	0.18***	0.08***
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Log of itu_d	–0.01	0.02	0.07**	–0.06*	0.04*	0.06	0.01
	(0.01)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Log of lpi_o	–0.26***	1.85***	2.11***	1.30***	1.94***	2.07***	1.89***
	(0.05)	(0.13)	(0.16)	(0.19)	(0.16)	(0.22)	(0.20)
Log of lpi_d	–0.05	0.04	0.10	–0.13	0.12	–0.20	–0.48
	(0.07)	(0.18)	(0.23)	(0.27)	(0.22)	(0.35)	(0.30)
Constant	–0.39*	–3.86***	–4.05***	0.91	–4.22***	1.84	–3.12***
	(0.23)	(0.65)	(0.78)	(0.94)	(0.87)	(1.22)	(1.05)
Observations R-squared	18341	18640	16494	13990	15277	10345	12179

Standard errors in parentheses
* p < 0.10, **p < .05, ***p < .01

greater complexity) is most reliant on having a common language and high-quality logistics.

2.5.2 Step 2: constructing the GVC Remoteness Index

Based on the results from the gravity model, we calculated a remoteness index that incorporates the standard notion of scale measured by GDP and geographical distance to all markets, also including the elaborated measure of distance just discussed: broadband capacity, logistics infrastructure and common language.[13] We called this the GVC Remoteness Index (GVC-RI). It is calculated as follows:

$$GVC\ Remoteness_{i,t} = GDP_{i,t} - DIST_{i,t} + ITU_{i,t} + LANG_{i,t} + LPI_{i,t}$$

where the *GDP*, *ITU* and *LPI* variables are the country-level value of GDP, broadband access and logistical performance. All variables are measured as described above and in the table in Annex 2.1. Since each variable uses a different scale, we standardised them in such way that all have mean equal to 5 and standard deviation equal to 1. A larger GVC-RI score indicates that the country is more remote in terms of scale and the elaborated measure of distance.

The results in Table 2.2 show that the most remote countries in terms of their potential in GVCs in 2015 are Solomon Islands, São Tomé and Príncipe, Haiti, Guinea-Bissau, Comoros and Laos. All of these countries are LDCs. They are all small in population and most are quite distant from large markets. In fact, almost all of the ten most remote countries in the index have populations below 5 million or are islands (many are both).

In comparison, the least remote countries are the USA, the United Kingdom, Canada, France, Switzerland and Germany. This indicates a strong correlation between proximity and level of development. While most of these countries are relatively large in population, this is not exclusively the case. What they do have in common is proximity to other large markets and high-quality infrastructure. It is clear from Table 2.2 that most proximate countries see relatively little variation in their GVC position over time.

In contrast, the most remote countries show a much greater variability over time and a worse remoteness score than expected based on GDP and location. This underscores the fact that remoteness is not simply a structural issue, but one that can be at least partly determined (or partly overcome) by policy reforms and investments in infrastructure. The country with the best performance in terms of ranking improvement between 2007 and 2015 was Mauritius, which rose 27 places. Despite its small size and remote location, Mauritius experiences strong improvements in both broadband access and logistics infrastructure, which enabled the country to participate in a range of GVCs.

2.6 Concluding remarks

There is little doubt that skills development must be at the top of the agenda for small and remote states. This is because a failure to invest in skills surely confines any country to rely on cost competitiveness to remain in GVCs. Countries that are both small and remote face even bigger challenges to move beyond basic low-value, low-wage value-chain activities. Case examples underline how both distance (raising co-ordination costs and tacit knowledge exchange) and scale (limited depth of local suppliers) make this next step particularly challenging. In this respect, priorities must be to improve the domestic skills base – of workers and managers – as well as leveraging ICT to carve out niche positions in products, tasks and services where transport and co-ordination costs are less binding. Overcoming some of the challenges of distance requires strong interventions designed to foster exposure to R&D and marketing.

Revolutions in ICT offer some hope for small and, especially, remote states to compete in a

Table 2.2 GVC-RI: 20 most remote and most proximate countries

Country	2015		2010		2007		% change in GVC-RI 2007–2015*
	Rank	GVC_RI	Rank	GVC_RI	Rank	GVC_RI	
Solomon Islands	1	0.1218	1	0.1249	1	0.1275	–4.5%
São Tomé and Príncipe	2	0.1068			5	0.0942	13.4%
Haiti	3	0.1009					
Guinea-Bissau	4	0.0979	2	0.1006			
Comoros	5	0.0962	4	0.0974	4	0.0946	1.8%
Laos	6	0.0952	9	0.0911	6	0.0931	2.3%
Fiji Islands	7	0.0934	6	0.0937			
Madagascar	8	0.0933	15	0.0857	11	0.0892	4.6%
Maldives	9	0.0925	5	0.0949			
Bhutan	10	0.0923	7	0.0935			
Mozambique	11	0.0922	3	0.0979	2	0.0958	–3.7%
Bolivia	12	0.0917	12	0.0868	13	0.0871	5.4%
Lesotho	13	0.0910			17	0.0851	6.9%
Tajikistan	14	0.0888	14	0.0858	10	0.0892	–0.4%
Paraguay	15	0.0887	17	0.0850	16	0.0859	3.2%
Burundi	16	0.0885					
Equatorial Guinea	17	0.0872					
Cambodia	18	0.0863	8	0.0931	8	0.0902	–4.3%
Mali	19	0.0856	11	0.0871	18	0.0843	1.5%
Kyrgyzstan	20	0.0851	25	0.0815	22	0.0833	2.3%
Japan	124	0.0523	113	0.0514	105	0.0515	1.6%
Singapore	125	0.0523	115	0.0512	103	0.0521	0.3%
Luxembourg	126	0.0523	111	0.0518	102	0.0538	–2.9%
Austria	127	0.0518	110	0.0522	106	0.0510	1.5%
Norway	128	0.0512	118	0.0490	110	0.0490	4.5%
Spain	129	0.0505	116	0.0500	107	0.0505	0.0%
Denmark	130	0.0504	120	0.0489	112	0.0480	5.0%
Hong Kong	131	0.0499	117	0.0495	109	0.0491	1.7%
Sweden	132	0.0497	119	0.0489	111	0.0481	3.3%
Ireland	133	0.0481	122	0.0472	115	0.0473	1.7%
Netherlands	134	0.0479	125	0.0468	119	0.0461	3.9%
Belgium	135	0.0473	123	0.0471	116	0.0472	0.1%
Korea, Republic of	136	0.0472	124	0.0470	114	0.0474	–0.4%
Israel	137	0.0470	121	0.0474	113	0.0475	–1.0%
Germany	138	0.0470	126	0.0465	117	0.0471	–0.3%
Switzerland	139	0.0464	127	0.0458	120	0.0455	1.9%
France	140	0.0460	128	0.0456	118	0.0464	–0.8%
Canada	141	0.0441	129	0.0434	122	0.0429	2.7%
United Kingdom	142	0.0434	130	0.0432	121	0.0430	0.8%
USA	143	0.0425	131	0.0421	123	0.0419	1.6%

Note: a negative change indicates a lower GVC-RI in 2015 than in 2007, which indicates that a country has reduced remoteness (increased proximity). Not all countries have a GVC-RI calculated for all years, owing to lack of data availability. Overall coverage ranges from 123 in 2007 to 143 in 2015.

'weightless economy'. Increasingly pervasive, ICT systems have moved beyond their earlier role as labour-saving tools to become core platforms on which work takes place, products are built and services are delivered. They are also increasingly being produced in fragmented GVCs. Taking advantage of such opportunities, however, requires investment in core ICT infrastructure, ensuring that markets for ICT services are competitive, and that ICT skills are extensive and deep.

Notes

1 MIT Industrial Performance Center.
2 World Bank.
3 Inter-American Development Bank.
4 University Roma Tre and UNU-MERIT.
5 This paper is an edited and shortened version of the more in-depth draft paper received by the authors.
6 For example, see Thun and Sturgeon (forthcoming), 'When global technology meets local standards: reassessing China's mobile telecom policy in the age of platform innovation', in Rawski and Brandt (Eds), *The Impact of Industrial Policy and Regulation on Upgrading and Innovation in Chinese Industry*.

Annex 2.1 Variable description and data sources

Variable code	Variable	Description	Source
		Dependent variable	
GVC Export	GVC exports	This variable represents the total bilateral exports of GVC goods (expressed in 2005 US$)	UN Comtrade
		Independent variables	
GDP	Gross domestic product	GDP for origin and destination countries (expressed in 2005 US$)	WDI
DIST	Geographical distance	Average distance between the most populated cities in origin and destination countries. The variable is expressed in km	CEPII
LANG	Language	Dummy variable: 1 if a language is spoken by at least 9% of the population in both countries	CEPII
ITU	Broadband access	Number of broadband subscriptions per 100 inhabitants in both countries	WDI
LPI	Logistics Performance Index	This variable ranges from 1 to 5 and reflects perceptions of a country's logistics, based on statistics such as efficiency of customs clearance process, quality of trade- and transport-related infrastructure, ease of arranging competitively priced shipments, quality of logistics services, ability to track and trace consignments, and frequency with which shipments reach the consignee within the scheduled time (expressed in 2005 US$)	WDI
TZDIFF	Time zone difference	Minimum time zone difference between countries (expressed in hours)	Authors' calculations
		Control variable	
TOTEXP	Total exports	This variable represents the total bilateral exports of goods (expressed in 2005 US$)	UN Comtrade
CONTIG	Contiguity	Dummy variable: 1 for countries with common borders	CEPII
COLONY	Colony	Dummy variable: 1 for pair ever in colonial relationship	CEPII
GATT	GATT (General Agreement on Tariffs and Trade)	Dummy variable: 1 if the country is GATT/WTO member	CEPII
RTA	Regional trade agreement	Dummy variable: 1 for regional trade agreement in force	CEPII

7 As Venables and Baldwin (2011) put it, 'The cost and unpredictable delays involved in intercontinental shipping and travel of technicians and managers still matter, particularly with just-in-time management techniques.'
8 This index is constructed as follows: GDP-weighted bilateral distance (60%); GDP-weighted bilateral Logistics Performance Index score (20%); GDP-weighted bilateral trading partners sharing a common official language (20%). Source: CEPII.
9 For example, Uber and AirBnB.
10 In order to minimise inconsistencies in trade data, an approach known as 'export mirror data' was used, whereby import flows are used to calculate export flows. In this approach, country A's export flows are calculated by compiling all the import records from the other 131 countries in the sample to country A.
11 See: http://wits.worldbank.org/WITS/WITS/AdvanceQuery/GVC/GVCQueryDefination.aspx?Page=GVCIndicator
12 Results are not significant for the destination country.
13 Based on the results from the gravity model, we have decided not to include time zone distance in the index.

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Chapter 3

The Changing Landscape in Commodity Markets and Trade and Implications for Development

Machiko Nissanke[1]

Abstract

This chapter describes how commodity markets and trade have evolved over time. This evolution has included the increased entry of financial investors and heterogeneous traders into commodity markets as well as changes in governance structures in global commodity trade. As investors, by creating derivatives products, continuously hold virtual forms of commodities within their asset portfolio, commodity prices have moved further away from market fundamentals, making them more sensitive to volatility in the financial sector. A direct consequence of this phenomenon is manifested in heightened price volatility—which became most apparent at the beginning of the Great Recession (2008–09). This 'financialisation' of commodity markets has altered conventional processes of price discovery and risk-hedging, with implications for managing price volatility at the producer level. Further, the process of market consolidation by very large multinational commodity-trading conglomerates has been intensified across commodities globally. To counteract some of these adverse effects, producers and producing countries should pursue mitigating strategies.

3.1 Introduction

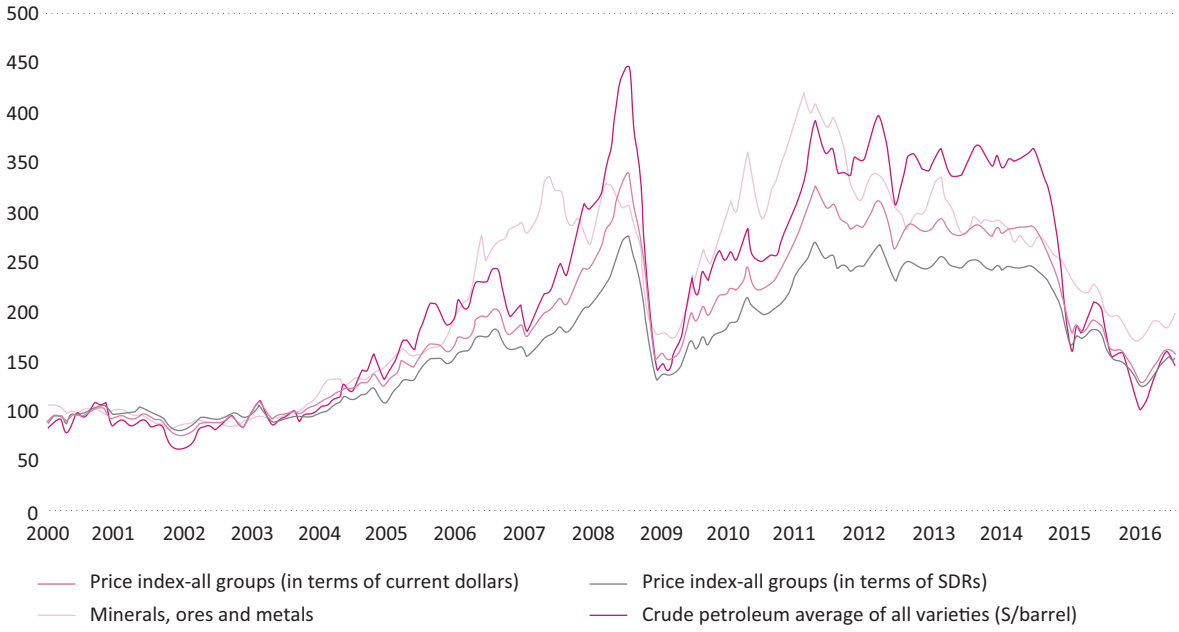
As the process of globalisation has intensified over recent decades, the landscape of world commodity markets, trade and production has undergone significant changes, at both the global and the national level. At the global level, heightened price volatility since the 1990s, alongside the collapse of the International Commodity Agreements (ICAs), has led to rapid expansion in derivatives markets across commodities, as demand for risk-hedging instruments from commodity stakeholders has intensified. The rapid growth of derivatives markets has in turn attracted new players—financial investors who are not engaged in trading physical commodities—to the trading floors. This has resulted in a radical change in the structures of trading on commodity exchanges.

There is mounting evidence that the unprecedented magnitude of swings and *excessive* volatility in commodity prices over the past decade, as shown in Figure 1, may reflect the ever-increasing linkages between activities in commodity and financial markets. Through this process of 'financialisation' of commodity markets, the volatility in commodity markets and that in financial markets can feed on each other and constitute an inbuilt mechanism of destabilisation and uncertainty in the world economy.[2] The simultaneous appearance of severe strains in both commodity and financial markets in 2007–09 cannot be treated as a mere coincidence: the major shift in global liquidity conditions induced by the banking crisis at the time was behind the highly charged volatility in both markets.[3] Thus, the growing number of interlinked activities between commodity

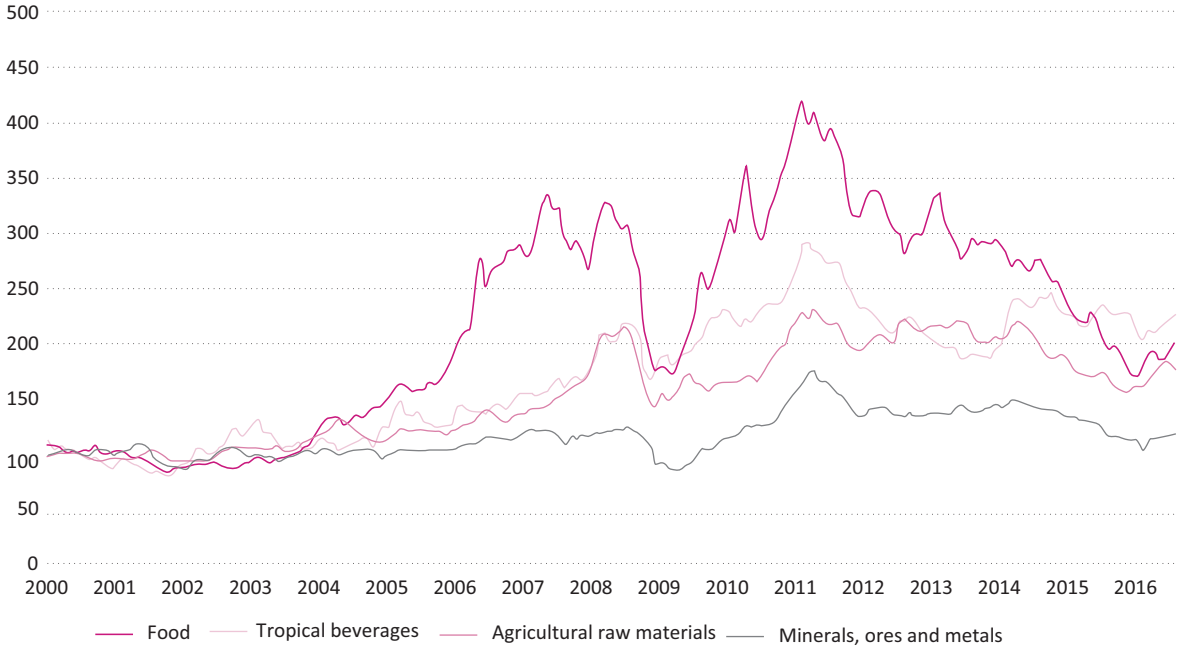
and financial markets by financial investors could manifest itself in important changes in commodity price dynamics. Over the *short term*, prices have become less reflective of market fundamentals—the actual supply and demand dynamics of physical commodities.

At the same time, fundamental demand–supply relationships in commodity markets continue to shape price cycles over the *medium term*. For example, the recent commodity price cycle, depicted in Figure 3.1, was triggered and sustained by an upsurge in demand for

Figure 3.1 Commodity prices for 2000–16



Monthly commodity price indices - Jan 2000-Jul 2016 (2000=100) agricultural commodities and metals



Source: IMF, Monthly Commodity Price Data (http://www.imf.org/en/Data)

commodities (e.g. oil and metals as well as agricultural commodities) from fast-growing emerging economies such as China and India. This, together with little investment in supply capacities during the period of low and declining real commodity prices in the 1980s and 1990s, gave rise to a 'commodity super-cycle' lasting more than 10 years—the longest medium price cycle in recent history. Likewise, commodity prices started following a clear downward trend across the board from their peak in 2011–12, and further experienced intense turbulence throughout 2014–15, led by the dramatic fall in oil prices. The commodity price index as a whole has plummeted since mid-2014. The end of the commodity super-cycle was by and large brought about by reduced demand for commodities against the backdrop of a considerable slowdown in the global economy, and in particular in that of China and other emerging economies, *and* the supply glut developed for a number of hard commodities resulting from the rise in investment during the boom.

In addition, the process of market consolidation by transnational corporations (TNCs) has been intensifying along the commodity chains in recent decades. Today, TNCs can significantly dictate the patterns of trade through intra-firm trade under their globally integrated production and marketing strategies. TNCs' activities are strategically organised and integrated horizontally as well as vertically. This is reflected in their dominance in commodity value chains.

In agricultural commodity production and marketing, there are considerable asymmetries in market power and access to information, technology and marketing know-how between TNCs, on the one hand, and local entrepreneurs, farmers and traders in developing countries, on the other. In mineral commodities, many concerns in developing countries were privatised in the 1990s under the auspices of the World Bank and the International Monetary Fund (e.g. copper mines in Zambia). A handful of TNCs are now able to exert a large influence on how commodity production and trade are organised and rents are distributed along the value chains. These changes at the global level have taken place in parallel with significant shakeups in the institutional environments and arrangements facing commodity producers at the national level, which have resulted from the waves of domestic market and trade liberalisation and deregulation implemented since the mid-1980s.

These changes in governance over world commodity exchanges and trade have had profound developmental implications for commodity producers and producing countries, in particular those classified as commodity-dependent developing countries (CDDCs), the majority of which are low-income countries in Sub-Saharan Africa (SSA) and the Economic Commission for Latin America and the Caribbean region.[4]

This chapter presents a summary discussion of the changes taking place in commodity markets, trade and production, and their implications for development. It is structured as follows. In Section 2, we describe how the financialisation of commodity markets has generated *excessive* volatility well above what can be explained by market fundamentals, and ended up impairing the ability of futures markets to provide stakeholders engaged in physical trading with an effective mechanism of price discovery and risk management. In Section 3, we examine how changing governance structures and market arrangements, and in particular the consolidation of TNCs' market power, have affected the modes of commodity trade, the distribution of rents and price transmission mechanisms along value chains. Section 4 offers concluding remarks.

3.2 Changing structures in world commodity markets and excessive price volatilities[5]

3.2.1 Market fundamentals and the commodity super-cycle

Unlike for earlier price cycles, which have typically been triggered by supply shocks, explanations for the commodity super-cycle of 2002–14 are mostly found in the 'Asian driver' story on the *demand* side.[6] For example, the sharp increase in prices of minerals and metals was driven by fast-growing demand from newly industrialising emerging economies, in particular from the two most rapidly growing economies—China and India. This was the result of their intensive use of these raw materials for their industrialisation drive, physical infrastructure-building and urbanisation trends. Similarly, a steady increase in demand for agricultural products was associated with substantial increases in and changing patterns of consumption, given rising per capita incomes in emerging economies. For example, China has become a significant net importer of agricultural products, including grains, soya beans and vegetable oils, as well as raw materials such as cotton and rubber. Pressured to meet this fast-growing demand, industries in minerals, metals and oils were hit by supply constraints, as investment in these sectors had been subdued in the 1980s and 1990s as a result of historically low commodity prices at that time. Similarly, agricultural production in low-income developing countries was neglected in the final two decades of the past century, in the absence of technology diffusion and supporting infrastructure.

The synchronisation of price movements across commodities is also explained by other common conditions, such as low stocks observed at the time of escalating prices, or side-effects of rising energy prices through associated higher transport costs and other input costs for their production and marketing. For example, the high correlation between metal prices and energy prices is a result of high use of energy-intensive technology in mineral and metal sectors. There is a special twist in the link between the rise in oil prices and that in food prices in relation to the dramatic increase in food prices between January 2006 and May 2008. On this occasion, there was an abrupt shift in arable land use from food crops towards bio-fuel crops in the face of soaring fuel prices. For example, subsidies available for converting maize to ethanol in the US encouraged this process. Vegetable oilseeds and oils saw an equally, if not more, dramatic increase as food crops. Climate change, intensified by soaring global fuel consumption, also adversely affected agricultural production in many countries.

Finally, the end of the super-cycle was brought about by the reversal in supply–demand dynamics—that is, excess supply conditions developed over time across commodities, resulting from i) sustained investment and the entry of new producers enticed by high expectations that the boom would last longer; and ii) weakened demand in the face of the fragile recovery of the global economy from the financial crisis, in particular the markedly reduced growth prospects of key emerging economies after 2012–13.

3.2.2 Intensified financialisation of commodity markets and their impacts on price dynamics

While there have been significant changes in market fundamentals, a question that is frequently raised relates to whether ever-increasing volatility in commodity prices and their co-movements can be explained simply by shifts in supply–demand relationships on their own. As Keynes (1942) observed, financial investors have historically always been active in holding commodities as a part of their portfolio. However, it is the fast expansion of liquid commodity derivatives that has provided investors with the ideal and most

cost-effective means of including commodities in their portfolios without bearing the cost of holding commodities physically. They have been able to hold commodities in *virtual* forms as an asset class through the use of complex derivatives products and financial instruments. After the burst of the dotcom bubble at the turn of the twenty-first century in particular, financial institutions and investors switched to aggressively target commodities as part of their strategy of diversification away from equity and bond markets. Commodities have thus become more integrated into the asset portfolios of financial institutions and investors.

In responding to the increasing interest from financial institutional and private investors, more complex commodity-linked financial instruments and products have kept being launched. For example, commodity index funds were launched specifically as a vehicle for speculating on price movement in commodity futures. Commodity index traders—usually swap dealers active in over-the-counter (OTC) dealings, mostly based at big investment banks such as Goldman Sachs, Morgan Stanley, J.P. Morgan and Barclays Bank—sell these instruments to institutional investors (e.g. hedge funds, pension funds or sovereign wealth funds) or wealthy individuals.[7] To offset their exposure to changes in prices, index traders continuously take a long position in the futures market.[8] Treating commodities in aggregate, their trading decisions are not so based on the demand–supply conditions of a particular physical commodity. Hence, commodity-specific fundamentals feature much less in their futures trading positions. Further, given that much derivatives trading is conducted by means of index trading of a bundle of commodities, prices of various commodities have become highly correlated.

There are now three categories of operations in commodity derivatives markets: informed, uninformed and noise trading. *Informed trading* is the rule followed by commodity stakeholders—that is, those with interests in physical trading and who use derivatives instruments mainly for risk-hedging purposes. As stakeholders, they try to base trading decisions on the market fundamentals of a particular commodity. However, they are constrained by great uncertainty surrounding the future directions of fundamentals as well as by the paucity of reliable data on inventories. Hence, they tend to resort to following market sentiments and the herd.

The other two trading strategies are likely to be adopted by traders acting for clients who hold *virtual* commodity stocks ('open interests') in their asset portfolio. Managers of money funds or other investment funds are classified as *uninformed traders* who make profits on futures trading by employing techniques such as chartist analysis or momentum trading on price trends. They exploit actively price volatilities on a high-frequency basis. *Noise traders*, such as index traders, make strategic decisions on commodity trade in relation to development of other asset markets as part of investors' portfolio allocation. Operating across different asset markets, their allocation decisions are subject to swings in market sentiments that determine common cyclical liquidity conditions in assets markets—that is, they are subject to global liquidity cycles.

As price movements mirror changing positions taken during these heterogeneous trading activities, prices are unlikely to reflect informed decisions based on market fundamentals only. Rather, price signals emanating from futures markets are likely to be contaminated by 'noises' unrelated to demand–supply fundamentals. The larger the share of noise and uninformed trading in relation to informed trading by physical stakeholders, the further prices are likely to move away from the reality of demand–supply fundamentals.[9]

Moreover, 'weight-of-market effects' can generate high price volatility, given positions

taken by powerful trading conglomerates like Glencore and large investment banks. Trading conglomerates like Glencore, operating across minerals and metals markets, or TNCs dominant in agricultural commodity chains, such as Nestlé in both coffee and chocolate or Cargill and ADM as first-tier suppliers of cocoa in global markets, are in a position to influence prices through their simultaneous operations on the spot and in futures markets.[10] In the absence of high counter-party liquidity, large orders by these entities cannot be absorbed without prices being unduly affected. Thus, coupled with the 'weight-of-market effect', the predominance of noise trading—combined activities by chartist/momentum traders and index traders—over informed trading by physical stakeholders could shift commodity markets into a *bubble equilibrium*, in which excessive volatilities are generated.[11]

At the current time, futures markets with sufficient liquidity are indispensable for hedging price risks for those involved in physical trading in the presence of great uncertainty over how demand–supply conditions could evolve in future. Indeed, futures prices posted on world commodity exchanges continue to serve as the benchmark for spot market operations conducted by physical traders and producers.[12] Futures prices hence affect spot prices as well as demand, supply and the level of stock-holding.[13] Yet only when futures prices correctly reflect collective expectations among physical traders regarding futures market fundamentals can such markets function as a vehicle for price discovery and risk-hedging. As the financialisation process has accelerated, the scale of *excess* in price volatility and deviation from fundamentals may become so large that stakeholders in physical commodities will no longer be able to rely on price signals emanating from futures markets to make informed decisions concerning demand and supply conditions, including those affecting investment and technological progress required for substitution and conservation of resources. Under such conditions, futures markets will cease to perform their intended function—that of price discovery and risk-hedging for physical commodity stakeholders. While excessive volatilities can provide powerful trading houses, TNCs and financial investors with attractive short-term gains, it is not possible to safeguard the interests of stakeholders of physical commodities, including those of small-scale producers in commodity value chains.

Clearly, world commodity exchanges do not operate efficiently at all times and in continuity to enable stakeholders with interests in physical trading to obtain effective and reliable protection from risks. This is particularly true when markets are characterised by high volatility in market fundamentals and when financial investors can pursue high-risk premiums as 'noise' traders. Under such 'turbulent' conditions, markets' self-regulating capacity is not sufficient to ensure efficient operations for risk-hedging purposes.

3.3 Evolving governance in global commodity chains and implications for development

3.3.1 Parallel processes of consolidation and fragmentation in global commodity chains, and implications for the distribution of rents

How highly volatile prices are transmitted eventually to producers and economies of producing countries depends critically on evolving governance and marketing structures in commodity chains. In this context, as globalisation has proceeded at an accelerated pace since the 1980s, vertically integrated TNCs have consolidated their position dominating multiple operations (production, processing and marketing) in a commodity chain. Their

dominance has continued to grow along supply chains, enhancing their bargaining power with other actors.[14]

The process of market consolidation by very large multinational commodity trading conglomerates has been intensified across commodities globally. Charts presented in the Appendix illustrate this trend for six soft and hard commodities. For a large number of commodities, developing countries remain important sources of raw materials. Yet the marketing of processed products is dominated by globally operating conglomerates and TNCs. Among soft commodities, two top companies (Nestlé and Jacob Douwe Egberts) controlled 38 per cent of the retail coffee market in 2014, and the top five accounted for a market share of just under 50 per cent of the world market. Likewise, in cocoa, the top five companies, including Cargill, ADM and Barry Collebaut, account for over 50 per cent of the first-tier suppliers of cocoa, while six major TNCs (including Kraft/Mondelez, Mars and Nestlé) account for 59 per cent of chocolate markets. In retailed tea markets, the concentration is less pronounced: the share of the top five companies stood at 39 per cent in 2015. In relation to hard commodities, TNCs based in developed countries, such as Rio Tinto Alcan, Glencore and BHP Billiton, occupy a prominent position in metal markets, with companies based in emerging countries such as China, Korea and India also increasing their market share. Glencore, specialising in commodity trading, controlled 60 per cent of zinc, 50 per cent of copper, 45 per cent of lead and 38 per cent of alumina in 2011, when it went for public listing.[15]

At the country level too, there have been significant changes in the institutional environment facing producers and farmers engaged in primary commodities in agriculture. For example, the waves of domestic market and trade liberalisation/deregulation have transformed arrangements related to the production and marketing of agricultural commodities such as cotton, coffee and cocoa.[16] In many SSA countries, most state-run marketing boards have been dismantled or downsized, and price and income stabilisation funds or mechanisms operating domestically have ceased to exist. In these new environments, domestic commodity producers and traders have become marginalised and isolated, as a result of the withdrawal of government institutional support and the subsequent loss of their bargaining power.

Thus, as TNCs have hastened the integration process of their operations globally, ironically, for small-scale producers and farmers in many countries, domestic commodity production and marketing have become fragmented. This condition has been particularly prevalent in countries like Tanzania and Uganda, where an institutional vacuum has emerged after the abolition of marketing boards or other stabilisation schemes. In these countries, with the withdrawal of institutional support from governments, stable and guaranteed access to necessary inputs such as seeds or fertilisers and new technology is no longer available to farmers engaged in commodity production. While these provisions and services are supposed to be provided by private agents and traders, such arrangements have often resulted in geographical fragmentation of marketing activities. Smallholders are inevitably placed in a weaker position in relation to private traders, many of whom have become agents for TNCs, in both inputs provisions and marketing of their produce in upstream commodity chains.[17] In the process, producers have also become spatially fragmented and isolated both between and within villages.[18] They are often paid a meagre fraction of prices posted in world commodity exchanges.

In fact, the parallel processes of consolidation by TNCs and fragmentation of producers have generally resulted in a hugely skewed distribution of gains and rents from commodity

trade. In the prevailing market structures, the potential benefits of productivity improvements can largely be appropriated by TNCs and global supermarket chains, rather than going to fragmented producers and farmers. The governance structures of primary commodity value chains have become increasingly buyer-driven, with a shift in the distribution of value skewed in favour of consuming countries (Humphrey and Schmitz, 2000, 2004; Kaplinsky, 2000; Kaplinsky and Kimmis, 2006). Today, commodity chains are increasingly characterised by captive or hierarchical governance structures, in which the degree of coordination and power asymmetry is high and market power lies within lead firms—TNCs. In captive or hierarchical governance, the buyer dominates in accessing knowledge and information and tends to dictate the terms of contractual supply relationships (Gereffi et al., 2005; Keane, 2012). The widening gap between producer and retail prices for a composite bundle of commodities[19] indicates how much rents can be created and how skewed rents distribution is in most commodity chains. In many cases, a few large TNCs—often the large trading conglomerates—can exercise their market dominance by reducing the producer price to little more than production costs.

Recently, an increasing number of farmers and smallholders have been engaging in agricultural production and marketing through new institutional arrangements, such as out-grower or contract farming.[20] Given their informational disadvantages, however, while contract farmer arrangements may guarantee them more secure access to inputs such as seeds, fertilisers and other inputs, farmers and smallholders are often tied to unfavourable contract terms, which are more geared to serve the interests of large agricultural conglomerates or globally operating supermarket chains. A switch from traditional export crops to non-traditional ones such as horticulture, cut flowers or pineapples has proved not to be an easily available option for smallholders. Strict produce standards and sudden switches in demand for crops from one variety to another, in Kenya and Ghana, respectively, have driven smallholders out of exports markets as mainstay supply sources.[21]

In addition, smallholders and farmers engaging in cultivation of food and cash crops in many low-income countries are reported to be increasingly squeezed out in terms of access to productive assets, such as relatively fertile farmlands or vital water or other resources, in the wave of 'land grabbing' by international investors (FIAN International, 2010; IIED, 2010). Large private corporations and financial investors from the US and Europe are investing with an eye to making huge financial gains at a time of rising grain and bio-fuel prices; sovereign investors from the Middle East and Asia are also known to lease or buy up large areas of farmland to solve their food shortage and insecurity problems back home, through aggressive global 'land-grabbing' in fragile low-income countries such as Cambodia, Ethiopia, Mozambique and Sudan.

3.3.2 Price transmission in agricultural commodity chains and the effectiveness of market-based instruments as risk-hedging for producers

Further, smallholders and producers are now exposed to greater price risks as highly volatile prices are directly transmitted from the downstream commodity chain through the international marketing system to small traders and producers operating upstream.[22] While producers have been increasingly exposed to the vagaries of global market forces (i.e. price volatility transmitted from international markets), they are not adequately equipped to deal with price risks and other marketing risks.

Indeed, the collapse of the ICAs to stabilise commodity prices through the management

of buffer stocks or export quotas as envisioned in the 1980s did not lead to a rethinking of the international consensus on how to counteract highly volatile markets.[23] Rather, the absence of agreed alternative mechanisms and instruments for international action seems to have provided the global community with a justification for taking a complacent position by accepting the dominant view that such non-market interventions were not necessary. Instead, much attention was given to enhancing primary producers' access to market-based risk management instruments so that markets could work without undue interference.

Thus, the international donor community has advocated the use of market mechanisms for managing commodity price risks to deal with risks stemming from large price volatility and accompanying income shocks in the CDDCs. The international financial institutions (IFIs) together with UN agencies set up the International Task Force on Commodity Risk Management (ITFCRM) and have actively encouraged agricultural commodity producers and traders to use market-based commodity-linked financial risk-hedging instruments such as futures and options as an effective price risk management mechanism. Critically, such a policy recommendation is predicated on the assumption that commodity derivatives markets operate efficiently for risk-hedging purposes.

However, as discussed in Sections 2, market-based hedging instruments have been ineffective in reducing and hedging price risks. Under the increased financialisation of commodity derivatives markets, prices in futures markets do not often reflect the fundamental demand–supply conditions, and hence act as a predictor of future spot prices that ensures the basis (i.e. the difference between futures and spot prices) will narrow as contracts reach maturity.[24] The greater divergence between spot prices and futures prices—that is, the failure of convergence—makes it harder to use to hedge the risk of stockholding, as losses in one market cannot be effectively offset by gains in the other.

Furthermore, while the use of derivatives instruments for risk-hedging has been presented as an answer to small producers at the micro level as well as to governments in CDDCs for macro-hedging, hedging instruments require large resources to cover high transaction costs in accessing to up-to-date market information and keeping close contacts with the development of financial and other commodity markets. High levels of liquidity are needed to be able to respond to sudden margin calls. Effective hedging periods also tend to be short, while organised derivatives markets such as futures and options cater only for standardised commodities without taking into account quality differences in commodities traded.

Large TNCs and commodity trading houses have their own in-house options and futures brokerages as well as large research departments that follow market trends closely on a daily basis. Their size and financial resources, often together with their diversification across a number of commodities, have allowed them not only to protect their risk exposure in increasingly volatile market environments but also to derive profit from speculating on hourly price movements. In deciding on their market placements, they are in a position to take into account activities of portfolio investors on derivatives markets in addition to their specialised knowledge on physical supply and demand fundamentals affecting prices. Smaller, single-commodity, trading firms either have been forced out of markets or have entered into niche markets, trading in specialty commodities, which can be sold with some premiums or in targeted markets.[25] Such a strategy allows them to survive without being too affected by daily volatile price movements on world commodity exchanges.

However, hedging instruments are costly and imperfect for poor farmers in developing countries for their price risk management. Issues such as high financial costs and skewed access to information, and high technical barriers for small actors, will make it hard to popularise these hedging mechanisms as universally applicable instruments. Local farmers and traders are often forced to use international intermediaries or branches and subsidiaries of TNCs to access these instruments and the technical expertise required. This pushes the cost of hedging even higher. A study commissioned by the Common Fund for Commodities on the pilot risk management scheme for cocoa farmers' cooperatives in Côte d'Ivoire also found that hedging risks using financial instruments had proved difficult and costly for local producers.[26]

Now, in order to build information infrastructure, local commodity exchanges have been established in a number of producing countries, as part of efforts by the ITFCRM to encourage the use of market mechanisms. The emergence of these exchanges is a potentially positive initiative for liquidity, transparency and efficiency at local and regional levels. However, it has been suggested that many of these markets are facing a nearly impossible task in relation to attracting sufficient volumes and liquidity. Further, it has not proved easy to create an adequate regulatory oversight agency such is required for liquid, functioning markets at the local level in a short timescale.

Given these experiences, the government of Côte d'Ivoire is now in the process of re-establishing a national marketing board for cocoa, turning to Ghana for technical assistance. Indeed, in Ghana, despite high pressure from the IFIs to abolish it, the marketing board Cocobod has been operating as the important national institution for governing cocoa production, marketing and trade. The board shields cocoa farmers from price pressure, market risk and high volatility emanating from the Chicago Board for Trade to a large extent, and hence is in a position to guarantee them a more stable income. Ghana's Cocobod holds equal legal and economic power *vis-à-vis* multinational buyers in the value chain and absorbs, at least partly, price pressure and market risk.[27]

3.3.3 Managing resource-based economies over commodity price cycles

As shown in Figure 1 above, developing countries dependent on hard commodities (energy, minerals and metals) for their export and fiscal revenues are susceptible to larger swings in prices over the medium term than those dependent on soft commodities. This makes the former groups of countries, known as 'resource-based economies', particularly susceptible to externally originated shocks, with serious implications for their macroeconomic policy configurations over commodity cycles. Macroeconomic management should be *counter-cyclical* to commodity prices in order to soften the effects of price shocks on both the external and the internal balances *simultaneously*. One of the counter-cyclical measures widely discussed in the literature on Dutch Disease Syndrome from the commodity boom is to facilitate absorption-smoothing over commodity price cycles. Indeed, Dutch Disease is by no means an inevitable 'resource curse', and its symptoms are commonly observed only because economies tend to run into short-term absorptive capacity bottlenecks at a time of boom-induced 'euphoria' or of a sudden influx of foreign exchange. Policy configurations of de-synchronisation of the path of absorption from that of income while increasing absorptive capacity over time should be central to macroeconomic management in response to commodity price fluctuations.

Many high- and middle-income countries, such as Norway and Chile, have successfully tackled Dutch Disease by moderating the transmission of commodity price shocks to the rest of the

economy through establishing stabilisation funds.[28] A counter-cyclical fiscal policy entails the accumulation of revenues from the resource sector during booms, and the use of these revenues in situations of falling prices. This policy not only stabilises revenues over the commodity price cycle but also reduces pressure on the exchange rate to appreciate during the boom. Stabilisation policy such as this can be implemented with ease where revenue from natural resources accrues to the government through state ownership of oil and gas resources, as in Norway or Chile, whose government successfully retained its share of 40 per cent of the assets of its previously state-owned copper mining company, Codelco. The Chilean government also negotiated reasonable returns from the private companies in terms of royalty payments and taxation in the privatisation process.

Unfortunately, many low-income countries have obtained very unfavourable terms and low deals from the privatisation of their national resources, with deals often negotiated under the auspices of the IFIs. For example, Zambia's copper industry, previously dominated by the state-owned Zambia Consolidated Copper Mine, was split in the 1990s into a number of mining companies owned by TNCs, with the government retaining a small share. These TNCs benefited from very low royalties, export tax and tax on profits, and other tax concessions, negotiated in secretly signed agreements. Given this, the contribution of the mining sector to the fiscal budget was marginal, until the deal was exposed in 2007, causing a public outcry. This forced the government to renegotiate the taxation regime with the TNCs in 2008. Further, foreign exchanges earned from copper exports have accrued directly to the currency market under the float-cum-monetary target regime that has been in operation, rather than to the Central Bank. This has not only resulted in a pro-cyclical movement in exchange rates (a large currency appreciation during the boom and a sharp depreciation in the bust) but also prevented the Zambian government from establishing stabilisation funds on export revenues. Under the prevailing monetary and fiscal regimes, then, Zambia was left with little room to pursue counter-cyclical interventions.

A brief comparison of Chilean and Zambian macroeconomic management with regard to the recent commodity price cycle suggests that how mineral rents are distributed between domestic stakeholders and TNC conglomerates, and how they are used and managed, makes a huge difference to the future economic prospects of resource-dependent countries. Generally, negotiations conducted between TNCs and host governments over fiscal and tax regimes behind closed doors have tended to produce outcomes that are decisively in the favour of TNCs, since host countries, fearful of TNCs losing interest in their location, offer unnecessarily generous fiscal concessions, such as tax holidays or lower tax and royalty payment regimes. Indeed, asymmetric access to information on TNCs' global strategies, combined with little transparency on negotiation processes, means these negotiations have often led competing host governments to adopt a 'race-to-the-bottom' strategy.

3.4 Concluding remarks

This chapter has examined the changing landscape in commodity markets, trade and production, and implications for development, with a focus on two aspects: i) the 'financialisation' process of commodity markets, and its impacts on price formation and volatility, and stakeholders' positions; and ii) the parallel process of the consolidation of TNCs' dominance and the fragmentation of producers in developing countries, and its effects on rent distribution and price transmission in commodity chains. On both accounts, the *relative* positions of producers

in low-income developing countries and countries heavily dependent on primary commodities for their development aspirations and agenda have been weakened despite the recent 'commodity super-cycle'. They remain structurally vulnerable to shocks originating in world commodity markets and the way the global commodity chains are governed.

Today, there is still a significant overlap between country groups categorised as least developed and those categorised as CDDCs. For these countries, commodity dependence represents a significant part of their vulnerability. Many have found it hard to overcome the 'commodity dependence development trap'—their historical legacy from the colonial era. This may exist as a specific condition resulting from vulnerability-driven negative feedbacks operating through multiple channels. Commodity production and trade remain their most dominant form of link to the world economic system.

An eventual transformation of these economies into more diversified economic structures is the real solution to the commodity dependence trap. Yet heightened price volatility, as well as the emerging landscape relating to commodity marketing and production, may have hampered the diversification process of these economies. Transformation of economic structures as a developmental process would entail structural reallocation of resources from low-productivity, low-value added activities to high-productivity high-value added ones *across* and *within* sectors. This can be realised only through rigorous investment in production capacity and physical and social infrastructure, *and* concerted *societal* efforts to direct public and private investment into new dynamic high-value added activities over time.

To this end, in the transition period, we have to develop strong production capacity in the *commodity* sector, with the process of active learning-by-doing and knowledge accumulation is facilitated and promoted. After all, development should entail the creation of a 'learning society', à la Stiglitz and Greenwald (2014), via learning-by-doing and upgrading activities involved. In this context, it is argued that there is substantial room for deepening linkages between the commodities sector and the domestic industry and services sectors (UNECA, 2013). While the case for linkage development is traditionally made based on the promotion of downstream forward linkages through the processing of raw materials, this points to opportunities to also develop upstream backward linkages and horizontal linkages.

Indeed, there may be the potential for local firms and enterprises that now serve large foreign or domestic corporations in commodity sectors to build productive assets by acquiring important organisational skills and management knowledge and accumulating capital. This would be transferrable to the rest of an economy through demonstration effects or through moving and expanding into new sectors and activities in such firms' own quest for higher private returns. The crux of the matter is then how to make sure that the valuable experiences, knowledge and skills acquired through learning-by-doing processes, as well as the financial resources accumulated, are directed into sectors promising high-value added and *social* returns, so that the economic structures emerging from the transition period will be well articulated and linked through dynamic externalities.

Yet, as discussed in this chapter, the landscape governing commodity production, marketing and trade that has emerged as globalisation has deepened and intensified has tended to limit the process of learning and knowledge accumulation to confined circles, and to not necessarily develop economy-wide spill-over effects. Product and process upgrading may take place at individual production units, but

it is uncommon to see functional or chain upgrading in commodity chains.[29] On the contrary, we have shown that the institutional environments facing producers in commodity chains at both global and country levels may have weakened the capacity and resiliency of smallholders and mining industries in producing countries.

There is an urgent need to reverse this trend. On the one hand, the problems associated with excessive volatility of commodity prices and the resulting income instability have a global dimension and implications. This means there is a need for international action in the form of new global innovative stabilisation schemes and a new compensatory financing facility.[30] On the other hand, there are measures that can be taken at the country level. Market-based mechanisms are often presented as a means to deal with the issues this chapter raises in relation to liberalised environments, but they do not provide a real solution, especially if local institutions and their capacity are too weak to represent stakeholders' interests on the ground.

As this chapter shows, smallholders and small producers in commodity chains become marginalised and fragmented when the withdrawal of government support creates an institutional vacuum. Remembering that markets do not in fact function in such an institutional vacuum, and without market-supporting institutions in place, there is thus a need to build developmental institutions at all levels. This should include strengthening local organisations' capacity for *collective action* and *conflict resolution*. Local organisations such as farmers' associations and cooperative unions have the potential to safeguard and represent stakeholders' interests, if they themselves are truly accountable to members' interests.[31] Likewise, as discussed in this chapter, depending on how deals over oil and mineral deposits are negotiated, resource rents are channelled more towards enlarging TNCs' private returns at the expense of advancing the developmental agenda of producing countries as a collective society. This means there is a need to strengthen state capacity to negotiate a fair deal on an equal footing with TNCs in an open and transparent forum. Producer countries should act together by sharing information and, if necessary, acting together for the sake of producer countries' collective interests.

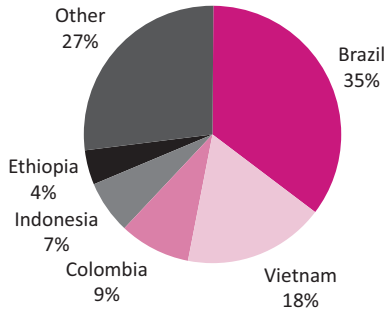
Appendix

Data Sets Provided in Excel[32]

Share in the production of selected commodities by countries vs. market share of processed products by companies

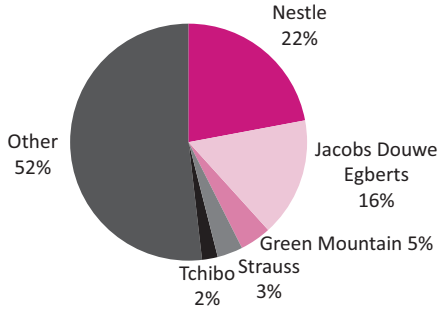
1. Coffee

World coffee production, 2014/15 (%)



Source: USDA (2016).

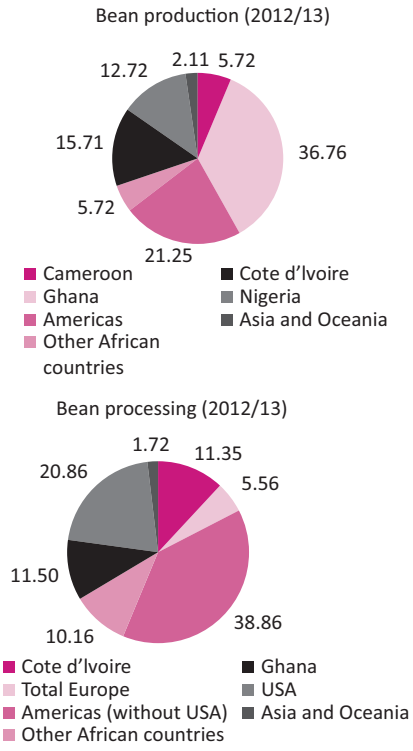
Coffee retail market share (retail sale value), 2014 (%)



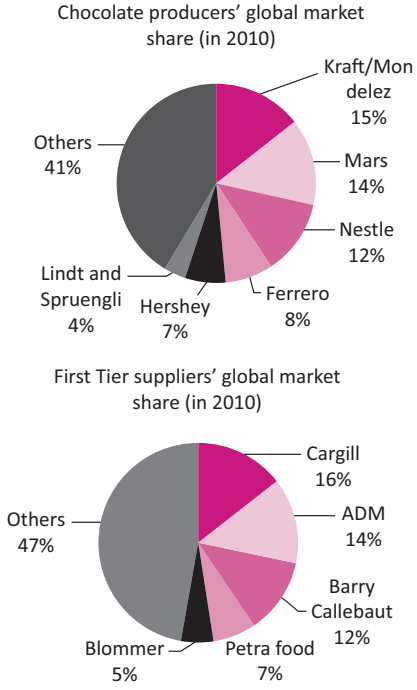
Source: https://www.statista.com/statistics/323254/global-retail-coffee-market-share-by-company/

2. Cocoa

Cocoa bean production and processing by countries and regions, 2012/13 (%)



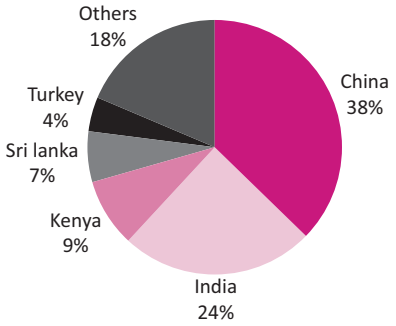
Cocoa producers' and suppliers' global market share, 2010 (%)



Source: ICCO (2013).

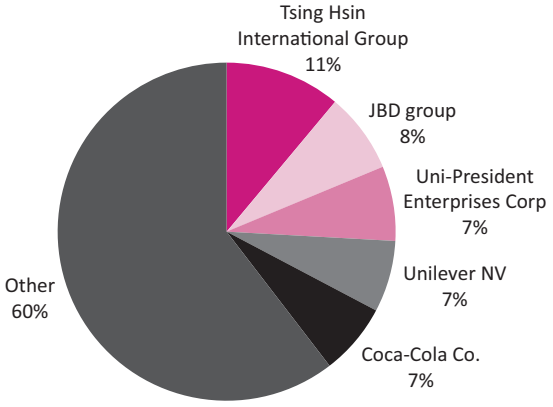
3. Tea

World tea production 2013 (%)



Source: FAO (2015).

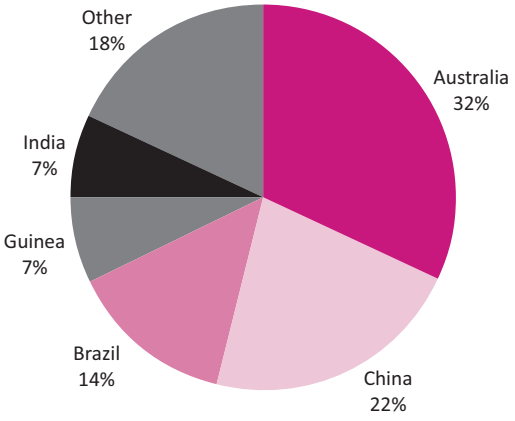
Tea retail market share (Ready-to-drink), 2015 (%)



Source: https://www.statista.com/statistics/387413/market-share-of-leading-ready-to-drink-tea-companies-worldwide/

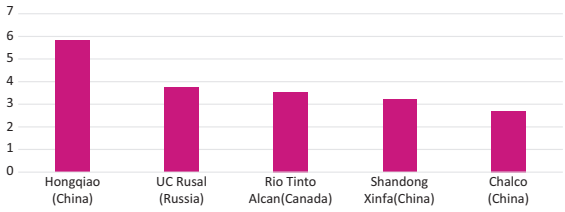
4. Bauxite vs. aluminium

World bauxite production, 2014 (%)



Source: USGS (2016).

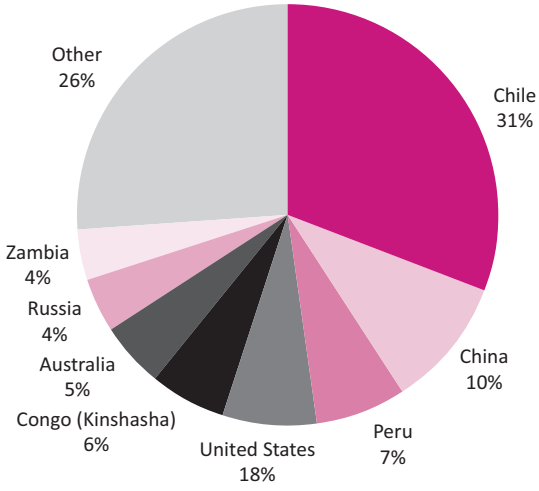
Top primary aluminium producers, 2016 (million metric tonnes)



Source: https://www.statista.com/statistics/280920/largest-aluminum-companies-worldwide/

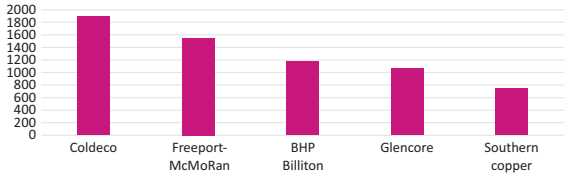
5. Copper

World copper production, 2014 (%)



Source: USGS (2016).

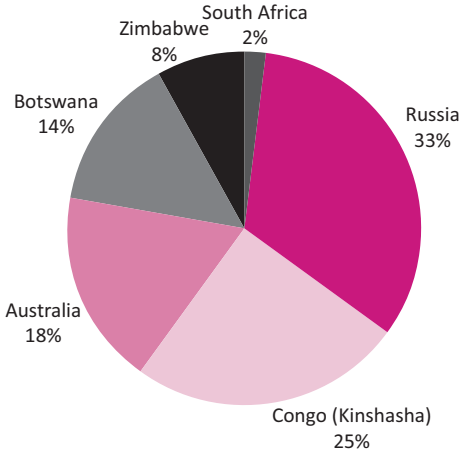
Top copper producers, 2015 ('000 tonnes)



Source: https://www.statista.com/statistics/281023/leading-copper-producers-worldwide-by-output/

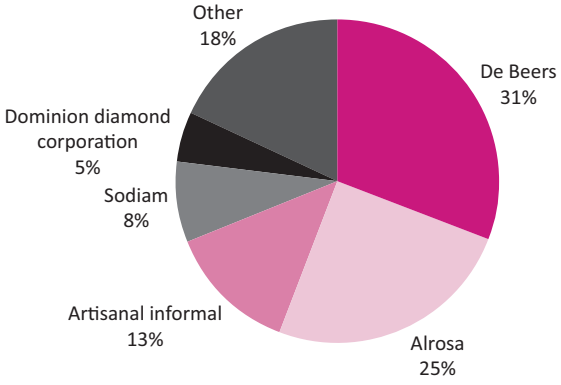
6. Diamonds

World diamond production, 2014 (%)



Source: USGS (2016).

Market share of diamond companies (Value-based sales), 2015 (%)



Source: https://www.statista.com/statistics/274532/global-diamond-production-share-of-major-companies/

Notes

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2 The financialisation of commodity markets was already present in the early 1990s, as observed by Maizels (1992, 1994).

3 See Nissanke (2012) for more detailed discussions on the linkages between commodity markets and financial markets for 2007–09.
4 See Nissanke and Kuleshov (2012) for more detailed discussions on the definition and characteristics of the CDDCs and commodity dependence.
5 See Nissanke (2012) for more extensive discussions on this subject, including a detailed analysis of heterogeneous traders' behaviours and their effects on commodity market structures and an evaluation of empirical evidence on the financialisation of commodity markets.
6 See Kaplinsky (2010) and Farooki and Kaplinsky (2012) for the 'Asian driver' story.
7 The deregulation of position limits previously imposed on investment banks in OTC commodity swap transactions by the Commodity Futures Trading Commission (CFTC) in the US clearly underpinned the expansion of commodity derivatives dealings.
8 By doing so, index traders tend to gain the roll returns and move futures prices in a unidirectional fashion in the process.
9 The interface among traders with different motivations is non-linear and very complex. When market fundamentals undergo structural changes, market conditions are likely to shift from a *fundamental* equilibrium to a *bubble* equilibrium (Nissanke, 2012).
10 See Appendix charts for TNCs dominating in value chains of selected soft and hard commodities.
11 To date, there have been a large number of empirical studies to show how the financialisation of commodity derivatives markets has altered price dynamics. Van Huellen (2015) provides a thorough updated review of empirical studies on this subject, and of new empirical evidence pertaining to how and how much futures prices exert an influence on the spot prices of several commodities.
12 For example, there is wide use of 'price to be fixed contracts' by international traders and roasters, who issues these to coffee growers. These are contractual arrangements whereby the volume, delivery date and differential price are specified but the final price at which the commodity is exchanged will depend on the futures price on the date the price is fixed. This shows the very close relationship between futures prices and the price at which physical coffee is exchanged.
13 Van Huellen (2015) shows that two theoretical approaches—one based on arbitrage pricing models (a theory of price formation in commodity markets through arbitrage mechanisms between physical and derivatives markets) and the other on asset pricing models (a theory of price formation in asset markets)—are required to understand the complex relationship between futures, spot and inventory markets—a complexity peculiar to commodity markets.
14 This trend in commodity chains was already evident in the early 1980s (Maizels, 1984).
15 Glencore's shares in metal markets are those reported in Farooki and Kaplinsky (2012).
16 See Newman (2009) and Bargawi (2009) for detailed case studies based on fieldwork in Uganda and Tanzania. A synthesis of their findings is found in Nissanke (2010b).
17 For example, the top five companies (all subsidiaries of large TNC trading houses) had taken about 70 per cent of the market share in coffee exports by the end of the 2000s in both Uganda and Tanzania. Yet it is worth noting that coffee farmers are generally better off in the Kilimanjaro region of Tanzania, where cooperative unions remain strong and the auction house handles coffee export trade centrally in Moshi.
18 See Bargawi (2009) for discussions on how cotton and coffee producers have experienced fragmentation between and within villages in Tanzania.
19 See Morisset (1998) for earlier evidence on this.
20 See Oya (2012) for a survey of contract farming arrangements in Africa.
21 See Keane (2016) for a Kenyan cut flower case study, and Asante-Poku (2016) for a Ghanaian pineapple case study.
22 See Baffes and Ajwad (2001) and Fafchamps et al. (2003) for empirical evidences on greater price transmission.
23 See Nissanke (2010a) and key references therein for reasons behind the collapse of the ICAs.
24 See Van Huellen (2015) for empirical evidences of this 'non-convergence' phenomenon, pointing to non-performance of futures markets in the role of price discovery for commodity traders.
25 For example, in coffee trade, there is growing demand for 'speciality' coffee such as fair trade and organic coffees or other product differentiation, in a process of de-commodification (Kaplinsky and Fitter, 2004).
26 See Nissanke and Kuleshov (2013) for detailed discussions on this pilot scheme and its outcome and the way forward for assisting farmers in their risk mitigation and coping strategies.
27 See Van Huellen (2015) for the unique institutional structure of the Ghanaian cocoa chain.
28 For example, in 2001, Chile adopted the former Structural Fiscal Balance Policy, which had been in operation since the early 1990s, with a view to developing a cyclically neutral fiscal policy, whereby current expenditure is stabilised by linking it to the structural level of fiscal income (Ffrench-Davis, 2010).
29 See Keane (2016) for case studies in the cut flower and garment sectors.
30 See Nissanke and Kuleshov (2013) for the proposed schemes and facilities at the global level.
31 See Nissanke (2017) for discussions on the institutional foundation for inclusive development

based on the concept of *endogenous* institutions and institutional changes.

32 I am grateful to Roland Baimbill-Johnson and Sophie Van Huellen for collecting and collating data used here.

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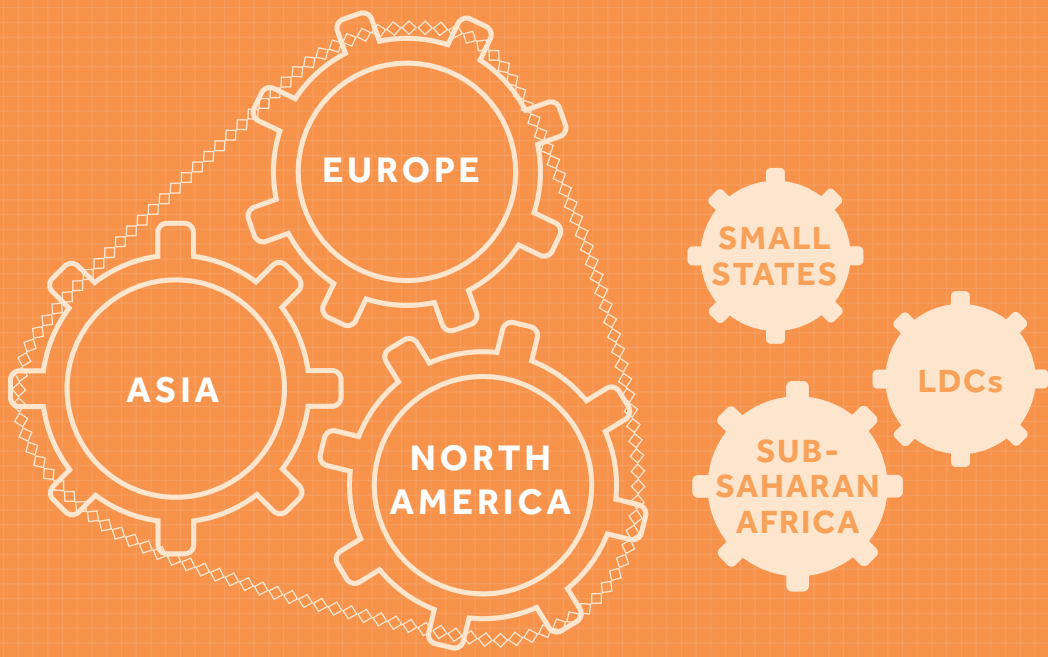
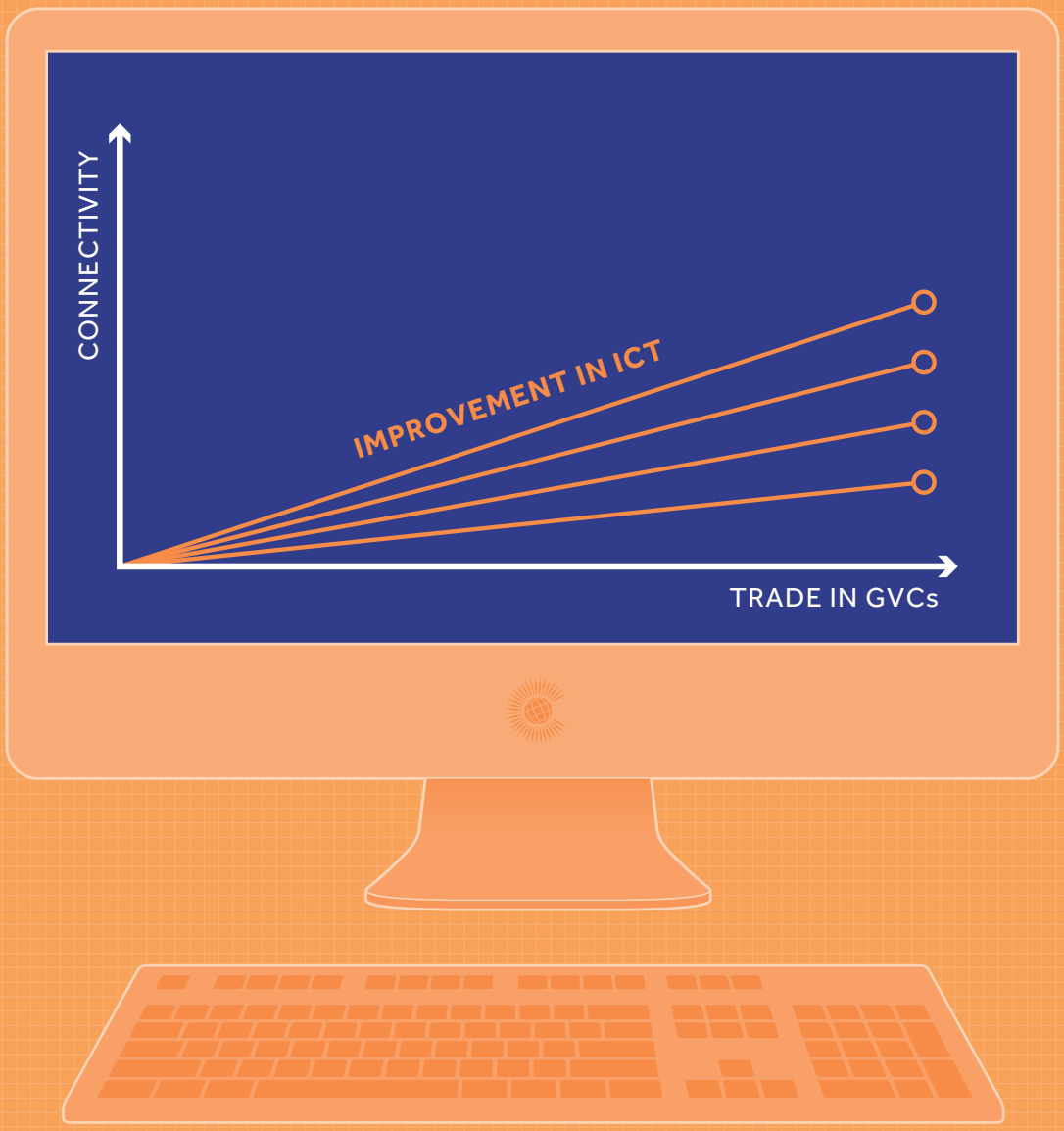
Section 2: Thematic Issues



THE POWER OF CONNECTIVITY



Geography exerts a major penalty on Commonwealth countries' compared to the global average. However for every one percent improvement in connectivity (ICT) for Commonwealth countries' trade in GVCs improves substantially compared to the global average.

Chapter 4

Effectively Governing Global Value Chains: The Institutional Interface

Jodie Keane[1]

Abstract

Since the beginning of the twenty-first century, the primacy of institutions in driving the trade–growth nexus has been at the forefront of development thinking. However, only recently have institutional variables become better integrated into global value-chain (GVC) analysis, as opposed to being relegated to the background. This is because of the increasing realisation that the transformation of global production through firms' internationalisation strategies has fundamentally altered the conventional profit–investment nexus, with no area of law untouched by the implications of this type of trade. In addition to the broader framework conditions determined by governments to effectively engage with trade in GVCs, more careful consideration has to be given to the institutional context within which firms trade and interact; the specific mechanisms through which knowledge transfers occur. These interactions – between public and private sector actors – must be contextualised as part of the processes of technological advancement and societal learning within broader innovation systems.

4.1 Introduction

Since the beginning of the twenty-first century, the primacy of institutions in driving the trade–growth nexus has been at the forefront of development thinking (Acemoglu *et al.* 2001, Rodrik 2001, Dollar and Kraay 2003). Although the debate has often been characterised by a dichotomy between types of trade policy regimes, more recently a broad consensus has emerged whereby trade reform is more proactively considered part of institutional reform. This process fundamentally alters patterns of behaviour within the public sector, as well as a government's relationship with the private sector and the rest of the world (Rodrik *et al.* 2004).

Within this context, the relegation of institutions to the background in much of the 1990s global value chain (GVC) case-study literature is rather surprising. Although the more recent wave of the more quantitative GVC literature has attempted to incorporate the role of institutions, the approach has been limited to consideration of national institutions and their quality. For example, in the original GVC handbook developed by Kaplinsky and Morris (2001) no indicators were assigned in relation to the institutional context of GVCs. To some extent, this is because, as elaborated on by Raikes *et al.* (2000), similar institutions were simply assumed to exist within the context of a liberal trade regime, with market-friendly policies in place.[2]

Since then, there is recognition of a need for the incorporation of domestic regulation and public sector support within a comprehensive framework which links GVC governance, institutional frameworks and upgrading (Ponte

and Sturgeon 2014). This is precisely because GVC analysis has so far focused mainly on governance mechanisms internal to the value chain, treating the institutional framework (including state regulation) as 'background' (*Ibid*).

4.2 Reflection on regulatory frameworks

The role of international and national institutions and the regulatory frameworks within which trade takes place clearly feature on the 2030 Agenda, given the universal adoption of the SDGs by the international community in 2015. However, their operationalisation across fragmented regulatory spheres continues to be subject to scrutiny and debate.

Since the global financial crisis (GFC), and the subsequent Great Recession, there has been a much more concerted effort by researchers to focus on the nature of relations between firms and how these are shaped by external structures set by governments. The interaction between internal relations between firms and their interplay within the overarching frameworks set by governments, and the disjuncture between these, became glaringly obvious after the GFC of 2008.

The profound shifts in the trade–growth nexus that have arisen since the crisis, and the apparent reduction in the power of growth to drive trade,[3] have necessarily lent themselves to a period of deeper reflection on GVCs and their institutional interface. There is a need to go even further, however. Deeper reflection is required in view of the process of technological advancement induced through GVC engagement, which is by its very nature disruptive, with winners and losers. These must be identified and mediated through public policy interventions.

Although the SDGs go some way towards redressing gaps and imbalances in global regulatory frameworks in view of public policy objectives, the scale of the challenge remains formidable. There is no one area of law that remains untouched by the implications of GVCs.[4] The transformation of global production through firms' internationalisation strategies has fundamentally altered the conventional profit–investment nexus.[5] All governments continue to grapple with this challenge, within the context of a highly fragmented global policy landscape-particularly within the realm of finance and investment.

4.3 New measurements of global value chains: trade in value added

The World Trade Organization launched the 'Made in the World' initiative in 2012, along with estimates on trade in value added (TiVA). These databases responded to some of the demands of the G20 countries for a greater understanding of the interconnected nature of global trade, in view of the synchronised slowdown that occurred in 2008. However, their contribution extends well beyond this.

For example, because of 'double counting' and the inclusion of imported goods in gross exports trade data, an estimated US$5 trillion of trade flows were simply overstated (UNCTAD 2013). However, while major statistical exercises have been undertaken to understand inter-industry transactions between countries through the construction of global and regional input–output tables, obtaining accurate data on intra-firm transactions remains a challenge.

Understanding company ownership structures, as well as where 'substantive activity' takes place, invariably has major implications for public policy aspects, including taxation. Although some progress has been made in terms of bringing international institutions and their reporting mechanisms up to speed in view of contemporary trade and investment flows, these facts underscore some of the challenges.

Currently, the situation is one in which we estimate the value added that accrues between countries, through an analysis of trade patterns between them, rather than between firms differentiated by their ownership structures and locations of substantive activity.

Effective competition management – within increasingly oligopolistic global market structures, as indicated by recent estimates of intra-firm trade – requires judicious implementation. The ability of indigenous firms to achieve certain upgrading trajectories (including functional), without being incorporated into tiers and networks of global suppliers, is becoming more and more limited. The process of functional upgrading may entail developing new contractual relations with lead firms. New ownership structures may result from the acquisition of certain technologies, as well as from the creation of certain financial linkages.

Clearly, the ascendency of GVCs has implications not only for the traditional profit–investment–growth nexus, but also for trade-induced growth trajectories. Value chains administered in various ways by transnational corporations (TNCs) now account for 80 per cent of global trade, with one-third of trade occurring within the boundaries of individual firms through intra-firm transactions. This has major implications for facilitating the process of technological upgrading and broader societal learning.

4.4 Adding value

Whereas in the past value added has been calculated in terms of the difference between total revenues and total outlays on intermediate inputs (factor payments and profits), within the context of contemporary trade and investment patterns, it may be more useful to connect this summation to those variables that can be influenced by policy (Baldwin and Evenett 2015). In turn, this implies that value added per worker may correspond not to average payments per worker, but to workers' productivity, factor payments and profit margins (*Ibid*).

Because it is no longer appropriate to consider trade solely in final goods, but rather in terms of tasks (Grossman and Rossi-Hansberg 2006), this necessarily entails disaggregating the value added and skill components of trade. Therefore, obtaining information on the types of firms involved in production, the level of technological sophistication of products, and the skills demanded of labourers and their remuneration becomes paramount. This requires a closer interface between GVCs and institutions to obtain, understand and respond to firms' demands in relation to the provision of education in a way that also meets public policy objectives. Greater governance capabilities are invariably required.

Some attempts have been made to better identify indicators associated with the upgrading trajectory so widely referred to in the GVC literature.[6] For example, moving beyond the conventional distinction between product, process, functional and inter-sectoral upgrading processes, Bernhardt and Milberg (2011) make reference to the following:

- **Economic upgrading:** increase in world export market share; increase in export unit values.
- **Social upgrading:** increase in employment; increase in real wages.

However, generally, discussion on upgrading within GVCs fails to situate this within the broader context of technological development and the acquisition of skills. Some attempts have been made to bridge this gap. For example, Pietrobelli and Rabellotti (2011) explore how the characteristics of national innovations systems (NIS) influence relations between firms and therefore their learning opportunities. However, much more empirical

research is needed to better understand these linkages within specific country contexts, as well as related policy instruments, as described in the sections below.

4.5 Facilitating learning

Fundamentally, upgrading in GVCs is a multidimensional process that seeks to increase the economic competitiveness (profits, employment, skills) and/or social conditions (working conditions, low incomes, education system) of a firm, industry or group of workers.[7] From this perspective, upgrading involves a learning process through which firms acquire knowledge and skills – often through their relationships with other enterprises in the value chain or through supporting markets – that can be translated into innovations or improvements that increase the value of their goods or services.

This learning process, resulting from the acquisition of knowledge, is one of the most important public goods, and requires systematic interventions by governments (Stiglitz and Greenwald 2014). To facilitate this process, a fundamental review of the structure of learning across an economy is required, within and across sectors. Stiglitz and Greenwald (2014) recommend a critical review of the following policies:

- design of educational and research institutions;
- presence of an innovation system;
- design of labour market (including rules affecting mobility of persons, within and across sectors);
- financial and capital market liberalisation (affecting the ability to learn how to allocate capital);
- intellectual property regimes;
- investment treaties;
- taxation and expenditures on infrastructure, education and technology; and
- legal frameworks for corporate governance and bankruptcy.

When upgrading within GVCs is viewed from this perspective, effective engagement expands beyond the realm of conventional trade policy formulation. Facilitating learning processes invariably relates to effective rent management; therefore, the national, as well as international, institutional context in which GVC trade takes place, matters.

4.6 Influencing value-chain governance

Economic upgrading within GVCs can be defined as firms, countries or regions moving to higher-value activities in GVCs to increase the benefits (e.g. security, profits, value added and capabilities) of participating in global production. It requires critical analysis of the nature of interactions between stakeholders within a given system of production, to transform activities from low value added to higher value. This is because value-chain governance structures may need to be changed to enable certain types of upgrading to occur.

Farole and Winkler (2014) discuss some of the mediating factors that shape the nature and extent of knowledge spillovers induced through GVC engagement. These include the spillover potential of foreign investors (particularly in the context of investments within GVCs), the absorptive capacity of local agents (firms and workers), and the way in which these two factors interact within a specific host country's institutional environment. Essentially, these interactions between public and private sector actors must be contextualised as part of the processes of technological advancement and societal learning within a broader innovation system.

Given this, more careful consideration has to be given to the institutional context within which firms trade and interact. This includes the role of organisations such as business associations, designed to facilitate these networking processes in a systematic way. Repeated and structured interactions form part of an innovation system. In order to assess the types of innovation systems in place, the following indicators are typically referred to:[8]

- **interactions among enterprises** – primarily joint research activities and other technical collaborations;
- **interactions among enterprises, universities and public research institutes**, including informal linkages as well as joint research;
- **diffusion of knowledge and technology to enterprises**, including industry adoption rates for new technologies; and
- **personal mobility**, focusing on the movement of technical personnel, including within the public and private sectors.

In order to facilitate these processes, policy-makers must design effective consultative mechanisms with business. There are various types of models which can be adopted (Ohno 2014). Consulting business on trade policy changes alongside civil society actors often requires a delicate balancing act. However, it is crucial to ensuring domestic impact assessments are rigorous and the appropriate flanking and sensitising measures are designed. Unfortunately, due to pressing time and resource constraints for many developing Commonwealth members, this has often not been the case, as described in the Commonwealth Trade Review 2015.

Ultimately, governments need to work more closely with their business associations and chambers of commerce to obtain accurate and timely information. This requires greater governance capabilities, particularly in cases where the private sector, including the small-scale and informal sectors, is not yet organised.

4.7 Informing quantitative analyses

Some caution is urged with regard to the consideration of institutions in quantitative GVC analyses, as most studies tend to rely on a very limited number of indicators incorporated from the literature on institutional quality. The objective of the emerging literature, however, is intended to move away from the more limited consideration of institutions within trade theory, which simply focuses on differences in terms of tax and technology.

In the literature on institutional quality, export industries are associated with institutional intensity, as proxied by their association with the rule of law (and, subsequently, contract enforcement, investor protection and protection of property rights). The 'rule of law' is used as an indicator of institutional quality (Levchenko 2007). The index of rule of law developed by Kaufmann *et al.* (2005) captures the quality of contract enforcement, the security of property rights and the predictability of the judiciary. For example, the following products are identified as either high or low institutional quality:

- **High institutional quality:** aircraft parts and equipment, mineral wool, surgical appliances and supplies, packaging machinery, manufacturing industries.
- **Low institutional quality:** meatpacking plants, soybean oil mills, poultry slaughtering and processing, special product sawmills, dairy products, butter, petroleum refining, fluid milk, tire cord and fabrics, malt, setup paperboard boxes.

Subsequently, the 'rule of law' indicator has been taken forward in the GVC literature as an indicator of institutional capabilities. For example, a distinction is made by Pathikonda and Farole (2016) between fixed capabilities and those that are either short- or long-term policy variables that may be changed. Institutional capital is included as a long-term policy variable in their analysis. They find that proximity to markets, efficient logistics and strength of institutions are important capabilities influencing GVC participation (as indicated by trade in specific product lines).[9]

The fixed variables they refer to include proximity to markets (measured by GDP-weighted distance in kilometres) and natural capital (current US$ billions). The long-term policy variables they refer to include:

- **Human capital:** measured by average years of schooling (population >15 years old).
- **Physical capital:** capital stock per person (2005 US$ thousands).
- **Institutional capital:** 'rule of law' rating from –2.5 to 2.5, from the World Bank World Governance Indicators.

The short-term policy variables they refer to include:

- **Logistics/connectivity:** measured by the World Bank Logistics Performance Index.
- **Wage competitiveness:** minimum wage for an apprentice or 19-year-old worker, as measured by the World Bank Doing Business project.
- **Market access:** measured by the World Bank Overall Trade Restrictiveness Indices.
- **Access to inputs:** Overall Trade Restrictiveness Indices for individual countries.

An alternative approach to the integration of institutional indicators into GVC analysis is adopted by Dollar *et al.* (2016). Participation in GVCs is indicated by domestic value added (forward participation), while foreign value added (backward participation) is linked to institutional quality. Using this approach, Dollar *et al.* (2016) find that countries with better institutional quality have a higher level of GVC participation in institutionally intensive sectors and experience a more rapid increase in GVC participation.[10] However, the positive correlation identified between GVC participation and institutions becomes less significant if the backward linkage GVC participation indicator is used. This may be because, in the research approach currently used, commodities exporters tend to exhibit higher proportions of domestic value added, defined as the backward linkage of GVCs.

To conclude, currently one major shortcoming of the inclusion of institutional indicators in GVC analyses is the sole focus on domestic regulatory indicators. The absence of discussion regarding the international dimension of institutions matters because of the fundamental asymmetries at play in relation to headquarter economies and host economies. In the past, the political economy of, for example, the General Agreement on Tariffs and Trade (GATT) and its successor the World Trade Organization (WTO), centred on a 'prisoner's dilemma' tariff-setting game: to shift from high tariffs towards low tariffs, all parties had to act in concert and be punished for non-compliance (Baldwin 2012). Nowadays, the challenge for policy-makers lies in understanding the need for new policy prescriptions, and notably improvements in the disciplines for international governance of the emerging trade–investment–service nexus (*Ibid.*). Currently, it is not clear how these needs will be reconciled.

4.8 Concluding remarks

The emergence of GVCs has profoundly altered conventional state–business relations, because

the objectives of governments are no longer as closely aligned with their domestic private sector, as in the past. Improving understanding of the influence of institutional variables operating at the national and international levels on contemporary trade and investment flows, as manifested in GVCs, remains an important research endeavour. Although the inclusion of some domestic institutional variables such as rule of law in the quantitative GVC literature is a positive development, there is currently an inability to consider their interaction with international institutions.

The interaction between institutions and technological capabilities deserves further attention. An innovation system is broadly defined in terms of a set of institutions that facilitate technological change and help to diffuse innovations. These systems facilitate interactions between private and public agents, serving to enable certain types of upgrading processes and the achievement of broader societal 'learning-by-doing' processes. The facilitation of these processes matters, because they are the only known ways to sustain growth induced through trade.

Notes

1 Economic Adviser, Commonwealth Secretariat. The views expressed in this chapter are the author's and do not reflect those of the Commonwealth Secretariat.
2 See IGLP Law and Global Production Working Group (2016).
3 There is general consensus that, where in the past a 1 per cent increase in growth led to a 2 per cent increase in trade, this has now changed to a 1:1 relationship.
4 Areas of interest raised in this article include competition, taxation, labour and environmental standards.
5 Although Milberg and Winkler (2009) make the link between GVCs and financialisation, it is UNCTAD (2016) that draws attention to shifts in the profit nexus at the firm level, with major implications for the advancement of sustainable development objectives.
6 See Humphrey and Schmitz (2004).
7 Milberg and Winkler (2014) describe upgrading within GVCs as being synonymous with economic development.
8 See OECD (1997).
9 These products include the parts and components included in the UN Broad Economic Classification (BEC) registry and the product list of the WTO Information Technology Agreement. Using the BEC classification, the authors combined capital and consumption goods into a single 'final goods' category and isolated 'differentiated, customised, product-specific' intermediates.
10 Institutions using the standard empirical framework in trade-institution literature.

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Chapter 5

Modes of Service Delivery and Upgrading in Global Value Chains

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Abstract

New understandings of the economic importance of trade in services have arisen as a result of a movement towards the measurement of trade in the same way as GDP: moving away from the uncomfortable juxtaposition of gross numbers for trade and value-added estimates of GDP. As a result, value-added estimates of trade are transforming our appreciation of the contribution made to total trade by services. In view of these developments, this chapter reflects on the governance framework provided for trade in services by the General Agreement on Trade in Services. The analysis shows how the assignation of policies individually to modes of supply reduces policy neutrality. This can serve development objectives in certain cases, but it can also undermine them. Policy impediments that affect services-related participation in GVCs tend to crop up more often in relation to investment (Mode 3) and the movement of people (Mode 4), with the potential for negative effects on GVC participation and upgrading processes. A tendency to define regulatory structures that affect goods, services and investment in separate policy compartments interferes with the relatively seamless nature of interaction among these aspects of GVC activity. Within the context of contemporary trade patterns as manifested in GVCs, rules across different modes of services supply need to be defined and applied with greater consideration of their interconnectedness, rather than being formulated in silos.

5.1 Introduction

There is growing recognition of the vital role played by services in economic growth and development, both as separate sources of value and in conjunction with production, trade and consumption linked to manufacturing and commodities. Trade and foreign direct investment enable economies to specialise in a variety of services activities on the basis of comparative advantage.

A solid literature already exists on the GVC phenomenon, its origins, its trajectory, and its implications for development and growth in developing economies. Less is known, however, about how services fit into the picture and, therefore, what needs to be done on the policy front. This is important to ensure that they fulfil their potential to support the participation of developing countries in GVCs.

One key element of trade in services is the creation of opportunities to upgrade and add high-quality value in upstream and downstream segments of value chains. This chapter first outlines the key features of GVCs that have increased the significance of trade in services over time. This is followed by a discussion of data challenges that are particularly acute in the services field. Because alternative modes of service delivery shape the nature of engagement of suppliers in GVCs and their scope for upgrading, this chapter closely examines these aspects of participation. Finally, a number of conclusions on services-related

opportunities are outlined with a view to promoting domestic value addition and upgrading.

5.2 Servicification

The intensified reliance on services observed in GVCs – from the conception of production to final consumption – has increased services' contribution to GDP. The word 'servicification' has been in vogue since around 2010, following groundbreaking work on the role of services in manufacturing by the Swedish Board of Trade (Kommerskollegium 2010). This term refers to the intensified use of services that has followed the fragmentation of production, both domestically and internationally. While it was coined in relation to the greater use of services linked to manufacturing, it can also be applied to value chains that have services as their final output.

As specialisation in international production has intensified, there has been a marked tendency for less and less of the production process to be performed in-house. Reliance on external suppliers has spiralled, whether they are offshore or domestic producers, and whether they are part of conglomerates or fully independent third-party suppliers. This fragmentation of production has boosted demand for services of all kinds, at all stages of production processes.

Demand for services in production and consumption-related services is a mixed bag. Some are high-tech, high value-added activities, such as design, plant and equipment repairs, advertising, marketing and selling. Others, such as cleaning services in production facilities and packaging, add less value but can greatly expand formal employment opportunities.

The explosion of demand for services on the supply side has been accompanied by increased demand for services in the consumption basket – a natural accompaniment to income growth. Increased service demand linked to GVC-type production and growing incomes has created new opportunities for developing countries to take part in value chains and, perhaps, upgrade their value contribution.

An important caveat here, however, is that a number of demand-side services relating to such functions as advertising, marketing and retailing may in some cases be location specific, so the opportunity to add value locally and upgrade will depend on where the market is situated. A second source of possible concern is that added value provided by local suppliers is limited to the low-skill, low-value end of production. This could happen either because local service providers are prevented from upgrading their offerings or because they are incapable of doing so. These issues are set out in the following sections.

5.3 The data challenge

The intangibility of services and their increasing customisation have resulted in more scarce and less reliable data on services in production and trade. This has contributed to a dearth of research and less careful policy-making, as well as a tendency to take the contribution of services for granted without enough concern for the risks of ignoring them.

The measurement of trade in the same way as GDP, for example, has only recently become feasible, moving away from the uncomfortable juxtaposition of gross numbers for trade and value-added estimates of GDP. A statistical shift, driven by advances in computing power and major data management efforts, has allowed value-added estimates of trade to transform our appreciation of the contribution made to total trade by services. It transpires that the real contribution of services is far higher when their value is identified separately from the goods in which they are embodied. We used to report services' share as less than

25 per cent of exports, while the true value is around 50 per cent – a figure much closer to what we already knew to be services' contribution to GDP.

In separating out the net import content of recorded exports, it is also possible to identify the true domestic sources of value in exports. As a result, bilateral trade balances look markedly different; the technology content of trade is revealed more accurately; and, finally, the true degree of global interdependence through trade becomes apparent.

5.4 Modes of services delivery

When scholars and government officials began to think of building an international system of rules for trade in services in the 1980s, they referred to the model adopted decades earlier by the General Agreement on Tariffs and Trade (GATT). The very nature of services, however, made it necessary to build something a little different. This can be seen in the adoption of four modes of delivery under the General Agreement on Trade in Services (GATS).

A range of services can only be produced and consumed simultaneously. This implies the need for physical proximity (with a haircut being one well-known example). Other services, such as live entertainment, may not require physical proximity, but still require simultaneous production and consumption. The need for physical proximity and simultaneous production and consumption have been lessened by modern digitised technologies, making services more storable and easier to produce and consume at a distance. The GATS is structured to cover these eventualities.

The GATS structure of four alternative modes of delivery also skirts the challenge of providing a definition of services, by identifying them in terms of transactions:

- Mode 1 is cross-border trade in services, and is similar to the way goods are normally traded. Most Mode 1 transactions are assumed to be digital in nature.
- Mode 2 is consumption abroad, covering such services as tourism and attendance at foreign educational or medical establishments. In terms of a trade transaction, consumption abroad means that the receiving country is the exporter and the country from which the consumer originates is the importer. Here, the importing country is agreeing not to block the displacement of its residents to consume somewhere else: in essence, a commitment to refrain from restrictions on imports.
- Mode 3 covers business establishment (in other words, investment).
- Mode 4 covers the temporary movement of people, referred to in the agreement as 'natural persons'. These are people who move to another country to work as service suppliers.

It has been argued that the coverage of these four modes is incomplete, given that services incorporated into the export of goods are not identified separately or recorded as trade in services. A case has been made to incorporate a new Mode 5 into services agreements, to cover trade in services that would not otherwise be identified properly because it is currently embedded in goods trade (Cernat and Kutlina-Dimitrova 2014). Leaving aside the practical challenges of identifying such trade, the argument is flawed because services imports incorporated in goods or in other services are effectively Mode 1 transactions. If these are counted, the assumption that most Mode 1 transactions are digital no longer holds.

What does the GATS structure imply for vertical production arrangements spread across multiple jurisdictions, as is the case in many types of GVC? Regarding Mode 2, this becomes less important, as it is about the rights of consumers to cross frontiers. In the

case of Mode 1, when services are identified and sold separately, the terms of market access can usually be identified without much difficulty. These are often intermediate services such as telecommunications, transport and financial services. It should be borne in mind, however, that if such services can either be supplied cross-border (Mode 1) or through a commercial presence (Mode 3), the question of 'modal neutrality' becomes important.

In other words, governments may design policies that make access easier or less costly through one mode rather than another; this means they are not necessarily allowing a market-neutral option to suppliers. Therefore, with respect to Mode 1 services (as well as the Mode 5 notion), it is the goods regime that needs to be looked at to determine how far GVCs are affected by policies that impact on services.

Policy has the greatest impact via Modes 3 and 4. While data are not always readily available, evidence from surveys of firms suggests that service suppliers often find it harder to establish a commercial presence than enterprises supplying goods. This means that either services are supplied less competitively or conveniently via Mode 1, rather than Mode 3, or GVC operators must rely on less competitive domestic suppliers. From a long-term development perspective, a government may want to make its domestic suppliers more competitive. However, in the short term, Mode 3-type investment barriers can hamper wider opportunities to participate in GVCs.

Relatively little use has been made of the GATS as a commitment mechanism under Mode 4. There are virtually no examples of Mode 4 commitments involving unskilled workers, and only a limited number for professional personnel. Mode 4 covers only temporary presence and takes care to avoid touching on immigration policy or the right of abode.

From a developmental perspective, Mode 4 trade is useful to impart skills and as a source of foreign exchange via remittances for the country supplying the personnel. However, when a temporary presence becomes more permanent, there is a potential national trade-off between the remittances sent home and the impact of 'brain drain'. Some developing countries have strong interests in promoting higher levels of commitment under Mode 4 among their trading partners. In terms of their own commitments, developing countries seeking enhanced GVC participation and the learning to be gained from skilled foreign personnel may find it worthwhile to facilitate foreign access for skilled labour under Mode 4.

To sum up, it is useful to consider what a neutral services regime would look like in terms of the modes of supply when exploring services trade regimes and their potential contribution to GVCs in ways that promote development and upgrading. This can provide a benchmark for consideration of the developmental implications of any departures from modal neutrality. Some departures, perhaps temporary, may enhance GVC participation and upgrading opportunities. Others that linger and that serve less development-oriented purposes may frustrate GVC participation by reducing the attractiveness of a particular location.

The GATS modes, as well as preferential trade agreements that cover services, may provide less effective support for GVC participation that enhances development when there is a gap between legal commitments and actual policies. This increases policy uncertainty and can result in lost opportunities.

5.5 Global value chains

The recent explosion of GVCs has altered the way we think about trade. The fragmentation of production, as well as related processes, among different countries has increased

opportunities for specialisation and growth through trade. The growth of modern industry is no longer considered a process that entails complete production processes taking place in one country. The growth of production sharing offers many more opportunities for outsourced suppliers to link to GVCs. This integration process fosters specialisation and can pave the way for greater competitiveness. Over time, outsourced suppliers can become lead firms in their own right.

The services aspect of GVC operations is arguably even more important for emerging and developing economies. This is because small and medium-sized enterprises (SMEs) form a significant part of the production base and are, in most cases, service providers. Compared with much of manufacturing, entry costs (physical capital requirements) tend to be lower for SME service providers; economies of scale are rarely part of the equation. The question is how successful SME service providers can be in securing their participation in GVCs.

The geographical configuration of some GVCs (and the way in which this configuration has changed over time) is influenced by the markets in which they operate. It is useful here to distinguish different kinds of GVCs. Back in the 1980s, for example, buyer-driven chains – value chains producing mass-consumption consumer goods such as textiles and clothing – tended to be controlled and owned in the West, while components and parts tended to be produced both in the West and, to some extent, the East. End-of-line assembly would take place in Eastern economies with low labour costs. Since the 1980s, however, this final stage has tended to shift to countries with lower wages, as incomes have risen in countries such as China. This has opened up new opportunities for lower-income developing and least-developed countries.

These shifting patterns are less obvious in the case of GVCs built on agricultural commodities and natural resources: their starting point is determined by the location of the resource; and end markets for output are more numerous. For developing countries hosting these kinds of GVCs, the challenge is to acquire a growing share of the value added between the raw material production or extraction stage and final consumption. Here, services can be a key factor. However, in addition to the domestic challenges of creating propitious conditions to foster this process, a tendency for importing countries to structure tariffs in an escalating pattern based on the degree of value added embodied in the imports in question can greatly complicate such efforts.

For producer-driven value chains, such as those making capital goods where sunk costs cannot be recovered and the production process is complex, a large proportion of the production process is likely be less 'footloose' and located in higher-income economies. If the output is bulky and involves high transport costs, chosen locations may be nearer end markets.

Understanding the dynamics behind decisions on the configuration, location and operation of GVCs, as well as what might influence and shape these over time, matters for the identification of new opportunities to participate in international production arrangements. A GVC-centred analytical approach emphasises the interdependency of imports and exports. It also sheds light on the opportunities to participate in internationally fractured production structures and the range of factors that influence the choice of location.

5.5.1 Services in global value chains

Fragmentation and international specialisation have not only raised the contribution of services to economic activity, they have also emphasised the integrated nature of goods and services in production processes. The involvement of services in GVCs is not always directly comparable to that of goods: it all depends on the function that particular services perform in GVCs.

Services merit attention because they are multifunctional. First, they play an intermediation role. They become part of the glue that holds the constituent parts of a value chain together. The services involved here include transport, communications, financial services, management, accounting, information and communications technologies, and advertising. Second, they play a co-ordination role, linked to some 'producer services' such as logistics. Third, they may be incorporated more directly into goods, such as in the case of packaging and labelling, where the services concerned change the presentation of the product but not necessarily its physical characteristics.

Another reason to focus on services is because the location where they are provided is not always a matter of free choice. The post-production downstream segments of GVCs, such as branding, marketing and distribution, are often specific to the consumption location. As the consumption destination of GVCs conforms to reconfigured sources of demand, opportunities emerge for specialisation and increased output across a whole range of services, beyond those traditionally linked to production, opening up new space for local service suppliers to link into GVCs. These opportunities may also arise over time in the upstream, pre-manufacturing segments of GVCs. For example, large markets in new locations tend to require different products to cater for local conditions and tastes, giving rise to localised R&D and other aspects of production.

Finally, linkages between trade and investment are particularly important for services provision, because of the need for physical proximity for the supply of a range of services. Even when this is not a technical requirement, as it is in the case of distribution services for goods, it may reflect a preference related to business relationships between producers and consumers.

5.5.2 Services and outsourcing

Recent firm-based research carried out mostly in Asia by the author and colleagues on the role of services in GVCs points to a significant degree of outsourcing (Low and Pasadilla 2016). Because the research relied on case studies, rigorous statistical analysis was not possible, so the findings tend to be hypotheses that deserve further investigation, rather than firm generalisable conclusions.

The research undertaken produced 38 case studies across a variety of goods and services sectors. These were chosen on account of access to information considerations. Comparability among the case studies was further complicated by the practical need, in a joined-up world, to define the GVC under consideration in terms of where it begins and ends. These cut-offs were determined by the extent of a lead firm's involvement in the GVC concerned. For reasons of tractability, only first-tier outsourced inputs were considered – that is, only the direct services inputs contracted externally, not those used by the first-tier suppliers.

A surprising number of services were required for most of the GVCs examined. The smallest number was 26 and the largest was 80. These were defined and identified according to the UN Central Product Classification (Revision 2). These services ranged from the simplest to the most sophisticated and knowledge-intensive of tasks.

Perhaps more surprising still was the degree to which services were outsourced. Taking all 38 firms in the sample, an average of 63 per cent of all service inputs were outsourced fully or partially (38 per cent and 25 per cent respectively). This left only 37 per cent provided fully in-house. Many of the outsourced inputs were procured from local suppliers, suggesting significant opportunities to link into GVCs through services provision.

Formal models of firms' outsourcing decisions tend to attribute the choice to cost and risk factors (Costinot *et al.* 2013, Milberg and Winkler 2013). The advantage of a more granular case-study analysis is that it offers more detailed explanations of why firms do or do not outsource. This, in turn, offers more scope for understanding what policies are likely to maximise domestic opportunities for GVC involvement, as well as for upgrading.

The academic literature around the boundaries of a firm – and what gives rise to the establishment of a firm in the first place – is useful in systematising the analysis of outsourcing (Slater 2006). This literature points to a variety of factors at work. These range from considerations regarding transactions costs (arising from information and co-ordination problems) to various forms of market and bargaining power (often emanating from property rights). Finally, considerations associated with principal–agent problems, hurdles to knowledge transfer, and issues associated with monitoring and reputation can all matter. A parallel literature from business analysis focuses on what is referred to as a 'make or buy' decision. Some of the reasons for making in-house include reputation and monitoring costs, co-ordination costs (timing, sequencing and technical specifications), information asymmetries, proprietary information, and liability considerations (including policy risk). Reasons for buying include economies of scale and scope, learning economies and network effects, including external economies of scale.

5.5.3 Upgrading and the role of policy

A growing literature has emerged in recent years on upgrading in GVCs. The term refers to the trade and developmental aspirations associated with higher-value participation in GVCs (Staritz *et al.* 2011, Gereffi *et al.* 2001). The analysis of upgrading is based on the proposition that even if GVC host economies are not as well positioned as others to influence some outcomes, they can maximise other aspects of economic empowerment. This includes consideration of policies that allow them greater scope for bargaining on aspects of value-chain governance over time.

A useful and widely referred to taxonomy for upgrading activity in GVCs distinguishes among the following categories (Humphrey and Schmitz 2000):

- process upgrading (improving a production process);
- product upgrading (improving an end product);
- functional upgrading (undertaking a new activity on a value chain);
- inter-sectoral upgrading (changing the area of activity or industry); and
- channel upgrading (expanding participation to different markets – that is, expansion along the extensive margin).

The challenge is how to benefit from these different upgrading opportunities, some of which remain under-researched, even in the case-study literature. When it comes to services, one immediate question is how the different functions of the services that enter GVCs can contribute to upgrading. This is particularly important because services are an increasingly dominant source of value, are multifunctional and are capable of contributing to innovation, as well as adaptation.

Effective action requires recognition of the intimate linkages across goods, services, trade and investment that enable the effective operation of GVCs. To ensure that services can make the most effective contribution possible, the policy environment should not create wedges between these different elements of production and consumption processes. It follows that some of the policy disadvantages

imposed on the services industries cited in our case-study research should be addressed.

In particular, the concentration of cost-augmenting restrictions in factor markets appears to present problems. These include restrictions on foreign and (sometimes) local investors, and labour-market constraints related to visas, work permits, professional qualifications, certification, practising licences and employment-contract restrictions. Interviewees also listed other avoidable policy costs, such as local-content requirements (use of local suppliers with skill deficits at high cost), conformity assessment procedures for standards, overlapping regulatory jurisdictions and issues around intellectual property protection.

Another basic factor cited by virtually all interviewees related to policy stability and predictability. Frequent and often unannounced policy changes, inconsistencies among jurisdictions within the same economy and the misuse of discretionary authority were often cited as negative factors in outsourcing decisions.

Addressing some of these issues, and doing so in a way that is consistent with national development policies, could enhance opportunities for GVC-related activity in the domestic economy through a more enabling environment. Other actions that enhance domestic capabilities across the board relate to the quality of physical infrastructure, the nurturing of human capital and the quality of governance.

In short, decisions about location do not depend only on market-driven price and cost advantages. Crucially, they also rely on policies. Operating costs are influenced heavily by the regulatory environment, including, for example, whether government-administered regulation and government-supplied services are provided in ways that avoid unnecessary costs. Another part of the policy landscape is enabling support. The quest for greater and higher-value participation in GVCs can be assisted by multiple mechanisms; these range from subsidies to measures to address appropriation problems, co-ordination externalities and information deficiencies. Maintaining such a policy framework, however, requires well-honed governance capabilities, full transparency, and continuous monitoring and accountability.

5.6 Concluding remarks

Six main conclusions emerge from this discussion on the critical importance of services for economic growth and development:

1) As services have become more important in production, consumption and trade, so too have the developmental costs of the failure to factor services into economic and policy analysis.

2) The national and international fragmentation of production has created many new opportunities to embed services inputs in GVCs across a range of activities of varying levels of value content and technological sophistication.

3) Despite the challenges, the use of improved data on services – particularly in relation to services' value attributed incorrectly to goods production and trade – is essential to an understanding of services-related opportunities to add domestic value and upgrade within GVCs.

4) The assignation of policies individually to modes of supply reduces policy neutrality on the choices made about how to supply services. This can serve development objectives in certain cases, but it can also undermine them.

5) Policy impediments that affect services-related participation in GVCs tend to crop up more often in relation to investment (Mode 3) and the movement

of people (Mode 4), with the potential for negative effects on GVC participation and upgrading.

6) A tendency to define regulatory structures that affect goods, services and investment in separate policy compartments interferes with the relatively seamless nature of interaction among these aspects of GVC activity. Rules should be defined and applied with an eye to replicating this interconnectedness, rather than being formulated in silos.

Both the opportunities to participate in GVCs and to upgrade participation over time depend on the policy environment. Businesses rely on predictability, consistency and transparency. An environment that is conducive to GVC participation and upgrading opportunities depends, therefore, on approaches to policy that focus on facilitation and minimise deadweight costs. Another element of successful policy may involve the temporary use of support measures such as subsidies. Success here depends crucially on governance capabilities, including consideration of good governance, as well as transparency and accountability.

Note

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Chapter 6

Global Value Chains, Tax and Trade: Upgrading the Position of Small States

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Abstract

This chapter considers the role that some small states that host international financial centres (IFCs) have sought to play as part of the global value chain (GVC) structures of multinational enterprises (MNEs) seeking to maximise tax efficiency. It provides some history of the challenges faced by such jurisdictions in responding to the development of norms and standards by bodies such as the Organisation for Economic Co-operation and Development, establishing context for more recent changes that, still unfolding, will affect the role that some IFCs located in small states have within MNE structures. Small states developed IFCs as a means of economic diversification, given the inherent challenges of participation in traditional GVC structures; the chapter concludes by reflecting on the need for IFCs, and the small states that host them, to build on the physical and professional infrastructure developed to date to identify ways that they can continue to provide high-value financial services within the GVCs of MNEs in a global tax framework in which taxation outcomes are better aligned with underlying economic activity.

6.1 Introduction

The fragmentation of global production that has occurred in recent years has been underpinned by revolutions not only in technology, but also in finance. A complex web of transactions has arisen between networks of firms not necessarily bound by direct ownership structures, nor ostensibly tied to the location where most substantive activity takes place. The expansion of vertically fragmented global value chains (GVCs) has been motivated by efficiency-seeking foreign direct investment (FDI), underpinned by a highly fragmented investment regime with, essentially, no globally agreed rules on finance. One aspect of the efficiency sought by multinational enterprises (MNEs) in structuring their GVCs is tax efficiency.

While there is a range of means by which an MNE can pursue tax efficiency, one method has been for MNEs to include in their GVC structures affiliated entities located in small jurisdictions that host international financial centres (IFCs). The use of entities in no- or low-tax jurisdictions in turn takes advantage, among other things, of an international tax system, the development of which has been based on norms and principles that are ill suited to today's modern, globalised economy.

The onset of the global financial crisis (GFC), which saw dramatic declines in the budgetary positions of many developed countries, led to, among other things, an increased focus on the tax practices of MNEs by governments in search of revenue. These developments, unfolding alongside recent scandals such as the release of the 'Panama Papers', have led to

a period of increased scrutiny regarding the absence of globally agreed rules. Concerns have arisen regarding a global 'race to the bottom', with jurisdictions increasingly competing by adapting their regulatory frameworks and attracting a broad range of efficiency-seeking investments as well as finance. Alongside an increased focus on the tax practices of MNEs, major public policy concerns have arisen relating to tax evasion and the effects of illicit financial flows. The international response, led by the Organisation for Economic Co-operation and Development (OECD) and with the political impetus of the G20, led to a significant and ongoing process of reform to the international tax system that has, as one of its broad goals, a better alignment of taxation outcomes with substance – that is, with the underlying economic activity.

This chapter reflects on these developments from the perspective of the small states that host IFCs, many of which have come to play significant roles in the global investment system. Such states, often remote and isolated, and facing large trading costs and other challenges to participating in GVCs, have sought to develop IFCs as a means of diversifying their narrow economic bases towards high-value services and away from limited commodity dependency.

Current processes under way will undoubtedly affect some IFCs, although the considerable diversity of small states that host IFCs means that the full implications are likely to vary significantly between countries. Yet, for many small states, identifying viable options for economic diversification and for ongoing participation in GVCs remains a very real and ongoing challenge. In adapting to the evolving international taxation and regulatory environment, building on the financial services infrastructure already in place to focus on new, value-added services may open up fresh opportunities.

This chapter is organised as follows. First, some of the terms used in the current debate on tax and trade are defined. Some of the reasons why some small jurisdictions have sought to develop IFCs as a means of economic diversification are described. An overview of the history of the regulatory and taxation landscape and issues as they have affected small states which host is also provided. Finally, this chapter outlines some of potential implications of the current regulatory clampdown, mitigation measures, and concludes with reflections on how small states can continue to effectively engage with the future GVC fragmentation mechanism.

6.2 What are international financial centres?

In an area where terminology assumes a particular importance, it is unfortunate that there is so little consensus or certainty around key concepts, despite efforts to develop clear definitions (Zorome 2007). Terms such as 'offshore financial centre' and 'international banking centre' are often used interchangeably, along with the pejorative 'tax haven', but all have slightly different meanings depending on the context.

At the most basic level, a financial centre is simply a concentration of financial intermediaries that provide services to individuals, businesses, governments and other groups. An 'international' financial centre is a financial centre of international significance, providing services to entities or individuals not resident in that jurisdiction. Some of the world's most significant IFCs include London, New York, Singapore and Hong Kong. A reference to an 'offshore' financial centre, as opposed to an 'onshore' financial centre, usually signifies services that are largely provided to non-residents. This is case for most IFCs hosted in small states, given the small size of their domestic markets.

6.3 Small state hosts

The Commonwealth considers a small state to be one that has a population of fewer than

Box 6.1

Small states

The Commonwealth defines small states as sovereign countries with a population of fewer than 1.5 million people. Some larger states are also considered to be small states, because they have many of the same characteristics (Commonwealth Secretariat 2016a). Similar concepts are used in different contexts. For example, the World Trade Organization (WTO) has a concept of small and vulnerable economies (SVEs) (WTO 2016), which are jurisdictions that account for only a small fraction of world trade and are particularly vulnerable to economic uncertainties and environmental shocks. A concept of small island developing states (SIDS) is also used by a number or organisations. There are clearly overlaps between these definitions.

1.5 million, though usage also encompasses a number of larger states that have similar characteristics (Box 6.1). There are 30 small states in the Commonwealth and a number of these have established IFCs. However, there are many more territories and dependencies of Commonwealth members (notably the United Kingdom and New Zealand) that host IFCs. The network, span and global reach of IFCs can therefore vary significantly.

In terms of the services provided by IFCs hosted by small state jurisdictions, these often include a range of intermediate financial services such as international banking, insurance, the facilitation of collective investment and asset management (Lane and Milesi-Ferretti 2010). While many IFCs in small states purport to offer a full range of such intermediate financial services, many often specialise in the provision of certain services and therefore develop specific regulatory regimes for these. For example, Bermuda has emerged as a centre for insurance services, while the Cayman Islands has emerged as a centre for fund management.

The significance of IFCs hosted by various small states and jurisdictions varies greatly. Vanuatu, for example, has a relatively modest IFC that in the International Monetary Fund's (IMF's) estimation contributes around 5 per cent to GDP, roughly 3 to 5 per cent to government revenue and less than 2 per cent to total formal sector employment (IMF 2015a). The contribution of IFCs to the Bahamian economy is around double this (IMF 2015b). Certain small jurisdictions also host some of the most globally significant financial centres. The Cayman Islands and the British Virgin Islands, for example, rank among the top 40 global financial centres (CDI and Z/Yen 2016).

While the extent to which an IFC contributes to a small jurisdiction may vary, the type of benefits a jurisdiction may receive include direct revenue arising from corporation registrations, local employment, the transfer of skills to the local population and other ancillary benefits such as those accruing to the tourism industry. The development of IFCs has therefore been pursued as an important economic diversification strategy among many small states.

6.4 High-value services and export diversification strategies

Small states and jurisdictions that have sought to develop IFCs have done so in response to inherent structural characteristics that necessarily limit the application of conventional trade and development strategies

and require more heterodox policies. With small domestic markets and high trade costs as a result of long distances from export markets, many Commonwealth small states are also highly vulnerable to natural disasters such as earthquakes, volcanic eruptions, hurricanes and climate change. In response to such challenges, a number of these jurisdictions have sought to create a comparative advantage through the introduction of a regulatory regime that accommodates niche markets (Woodward 2011).

Two of the earliest examples of small jurisdictions adopting an IFC model include The Bahamas and the Cayman Islands. The IFCs in each of these jurisdictions were first developed during the 1960s, in response to US-imposed capital controls. The US government's decision to tax interest payments received from foreign securities, to reduce its balance of payments deficit, meant that British banks could lend at lower rates than US banks. To capitalise on this, establishments were created in the Caribbean, in a time zone that enabled them to compete with US banks, and with infrastructure costs lower than those found in London.[2] This example demonstrates how IFCs often develop in response to changes in the international financial architecture and the specific niches that may be created within particular jurisdictions.

As well as offering a generally stable and predictable legal environment, jurisdictions may offer a legal system that enables the ready creation of financial-sector entities such as banks, or structures such as unit trusts, corporate entities or limited partnerships used for asset management. They also often offer a skilled workforce and an accommodating regulatory environment (Lane and Milesi-Ferretti 2010). While taxation outcomes are not the sole driver of the use of an IFC, the level of taxation and how this compares to the 'parent' country can often be an important 'pull' driver of capital flows. Usually in the context either of no corporate tax system, or of a system that specifically provides for either no or very low levels of taxation for certain defined, 'offshore' financial-sector entities, MNEs can utilise such entities to lower their global effective tax rate through, for example, allocating income-producing assets to those entities.

Other motivations for the incorporation of IFCs based in small states into the transactional networks of globally operating firms include the presence of attractive tax treaty networks, with investment destinations that may have the effect of lowering withholding taxes on returning income streams or producing capital gains tax benefits. The presence of strong tax secrecy laws and non-disclosure provisions has also traditionally been a driver, though often more so as a driver of the tax planning practices of high-wealth individuals. However, as noted below, this has become less of a driver as the tax transparency agenda has gathered momentum.

6.5 Responding to regulatory change

Having often been established in response to the tax or regulatory framework of other, larger jurisdictions, it is perhaps not surprising that small states which host IFCs continue to be affected by, and need to adapt to, the broader international regulatory environment. Although there are major trade policy dimensions to the regulation of investment and capital flows (with clauses and references increasingly included in bilateral deals), it is fair to say that a soft-law approach continues to dominate at the international level. Increasingly, a 'name and shame' approach towards regulatory reform has been taken by international bodies.

An example of this, and also an example of where the role of IFCs in the structuring of GVCs by MNEs has been challenged, was the OECD's Project on Harmful Tax Practices, which began in the early 2000s. At that

time, the OECD, an international economic organisation consisting predominantly of high-income countries and whose membership now numbers 35, listed a number of jurisdictions as 'tax havens' based on an assessment of their tax regimes against criteria designed to identify harmful regimes. The four key factors used as the criteria are identified in Box 6.2.

Of the 35 jurisdictions identified at that time by the OECD, using its defined criteria, 26 were Commonwealth member countries or jurisdictions otherwise affiliated with a Commonwealth member. This identification process led to a number of outcomes. The 'naming and shaming' process affected not only the host country but also, in some cases, the reputations of lead firms and investors using IFCs in those countries; this led to some changes in the host countries' domestic tax and regulatory regimes. Moreover, it also led to increased international efforts to promote greater collaboration between revenue authorities. One tangible outcome of these efforts and the exchange of information generated has been the creation of the world's largest multilateral taxation platform. The *Global Forum on Transparency and Exchange of Information for Tax Purposes* was mandated by the G20 to monitor the implementation of these standards (Box 6.3).

Although the outcomes now embodied in the Global Forum are laudable, the process that led to its development raised many concerns for small states affected at the time. For instance, there had been limited engagement with the jurisdictions affected by the process, while concerns were raised in relation to the nature of the identification process and the extent to which this was based on criteria applied objectively and in a transparent way, and also about the manner in which non-OECD jurisdictions were treated relative to OECD members. It was in this context that the Commonwealth Secretariat took on a role with a number of its small state members, advocating a fairer process. The issue was the subject of discussions at Commonwealth Finance Ministers Meetings held in 1999 and 2000.

Box 6.2

OECD criteria for identifying tax havens (OECD 1998)

i) No or only nominal taxes

No or only nominal taxation on relevant income is the starting point to classify a jurisdiction as a tax haven.

ii) Lack of effective exchange of information

Tax havens typically have in place laws or administrative practices under which businesses and individuals can benefit from strict secrecy rules and other protections against scrutiny by tax authorities, thereby preventing the effective exchange of information on taxpayers benefiting from the low-tax jurisdiction.

iii) Lack of transparency

A lack of transparency in the operation of the relevant legislative, legal and administrative provisions is another factor in identifying tax havens.

iv) No substantial activities

The absence of a requirement that the activity be substantial is important, since it would suggest that a jurisdiction may be attempting to attract investment or transactions that are purely tax driven.

Box 6.3

The Global Forum on Transparency and Exchange of Information for Tax Purposes

The Global Forum as it now exists is the continuation of a forum that was created in the early 2000s in the context of the OECD's work to address the risks to tax compliance posed by non-co-operative jurisdictions. The original members of the Global Forum consisted of OECD countries and jurisdictions that had agreed to implement transparency and exchange of information for tax purposes. The Global Forum was restructured in September 2009, in response to the G20's call to strengthen implementation of these standards.

The Global Forum now has 137 members on equal footing. Through an in-depth peer-review process, the restructured Global Forum ensures that its members fully implement the standards of transparency and exchange of information they have committed to.

The need to respond and adapt to a reform agenda driven largely by other groupings remains a challenge for small states. As outlined below, a number of recent and ongoing developments in international taxation regimes are likely to exert a significant influence on the business models of IFCs, and to redefine their place in GVCs.

6.6 The G20-led international tax agenda

The GFC saw the revenue base and overall budgetary situation of many of the world's developed countries sharply decline. The enhanced understanding of global production networks and aggressive tax planning by multinational enterprises subsequently became a central issues on domestic political agendas. Invariably, these discussions have been raised to the international level. The OECD, under the stewardship of the G20 – an enlargement of the G8 group, and reinvigorated in response to the GFC – has henceforth suggested a number of reforms to international financial architecture.

The first of these, of most relevance in the context of a discussion on GVCs and the role of small state IFCs, are the efforts being taken to curb tax avoidance practices among MNEs. Although there is no international tax law as such, the aspects of domestic taxation law that evolved to deal with cross-border investment focused, among other things, on seeking to clearly identify jurisdictional taxing rights and avoid the negative investment effects that might arise from so-called double taxation – that is, two jurisdictions seeking to tax the same income. These domestic provisions were supplemented by bilateral agreements in the form of double-taxation agreements. However, these provisions and treaties, and the underlying principles and norms that inform them, are ill suited to the modern global economy. They were developed at a time in which cross-border investment was less focused around the role of MNEs, involved clear, more direct forms of investment such as investment in bricks and mortar factories, and did not cater for the rise of the digital economy or the increasing importance of intangible and highly mobile assets such as intellectual property. As such, they were open to manipulation by MNEs, including through the use of affiliated entities located in IFCs, which could lead to significant decreases on global effective tax rates for the MNE and often double non-taxation for particular streams of income.

To address this legal tax avoidance, G20 leaders endorsed an ambitious OECD action plan to address so-called base erosion and profit shifting (BEPS), at their 2013 summit in St Petersburg (G20 2013). Under the 15-point BEPS Action Plan, a range of work was undertaken by both OECD and G20 members with the broad goal of limiting the abilities of MNEs to artificially shift profits to low- or no-tax jurisdictions by better aligning taxation outcomes with underlying economic activity.

The work under the Action Plan was broad and ultimately culminated in the delivery of 15 reports to the G20 at the end of Turkey's presidency in 2015. In a number of areas the reports flagged a need to undertake further work, but the BEPS project has since moved on to an implementation phase, focused around four so-called 'minimum standards', the implementation of which will be overseen and monitored by a group now numbering around 100 jurisdictions.

The first minimum standard will involve the introduction of provisions into bilateral tax treaties to prevent treaty abuse – that is, the setting up of companies in jurisdictions simply for the purpose of taking advantage of favourable tax treaty arrangements in investment destinations. To avoid the need to renegotiate more than 3,000 bilateral tax treaties, a multilateral instrument that will update the treaties of all signatory countries has been developed.

The second minimum standard is the implementation of so-called country-by-country reporting – a requirement for certain large MNEs to provide reports to tax administrations on a global breakdown of profits, tax paid and economic activities reported. The reports are intended to provide tax authorities with a better opportunity to assess the risk of MNEs mispricing the transfer of assets and services between related entities in the group as a means of shifting profits to lower-tax jurisdictions.

The third minimum standard is the rejuvenation of the OECD's work on addressing harmful tax practices. The work undertaken during the two-year BEPS Action Plan focused generally on reviewing tax regimes, and specifically on attracting intellectual property (so-called 'patent boxes') and, in that context, providing further guidance on the 'substantive activity' requirement used to assess harmful tax regimes (see above). Going forward, in the context of the BEPS implementation framework, a peer-review process is being developed to consider the harmful tax practices of jurisdictions beyond the OECD and G20 that have otherwise been the focus of the work to date. The focus on processes that would appear to mirror those adopted by the Global Forum, emphasising a review by peers and the participation of jurisdictions on an equal footing, may go some way to allay the concerns of jurisdictions, including many small states, recalling the early stages of the OECD's work on harmful taxation.

The final minimum standard is not so much a minimum standard, but rather an agreement by members of the framework to progress the work on developing effective mechanisms to resolve disputes in international taxation matters.

While the above developments, particularly those relating to the first three minimum standards, will reshape the role that small states hosting IFCs play in MNE GVCs, it is worth highlighting another aspect of the G20 international tax agenda that is having an impact on small states. This is the development of a new standard for the automatic exchange of tax information between revenue authorities as a further means of combating global tax evasion. The 'Common Reporting Standard' (CRS) (OECD 2014) closely mirrors the key elements of the US Foreign Account Tax Compliance Act (FATCA)[3] in requiring financial institutions to report to tax authorities information regarding non-resident account

holders. As well as endorsing and committing to the standard themselves at the end of the Australian G20 presidency in 2014, G20 leaders made it clear that jurisdictions hosting IFCs would also be expected to comply by 2018 (G20 2014).[4] All Commonwealth members hosting IFCs have committed to this timeframe, the implementation of which will again be overseen by the Global Forum.

6.7 The re-emergence of 'blacklists'

As an example of the soft-law approach to the enforcement of emerging global norms, two processes evolved in 2016 to promote compliance with these new international tax developments, both involving the listing of jurisdictions that fail to meet or commit to relevant standards. The first of these, developed by the OECD and agreed by G20 leaders at their summit in Hangzhou, will focus on jurisdictions that fail to meet international tax transparency standards (G20 2016). These criteria include:

- compliance with the existing tax transparency standard focused on the exchange of tax information on request;
- a commitment to implement the new transparency standard for the automatic exchange of information (the CRS identified above); and
- having in place the legal basis for the exchange of tax information.

A list of jurisdictions that fail to meet the criteria will be finalised by the G20 summit in Hamburg in July 2017. In addition to the listing of jurisdictions, G20 countries also indicated a preparedness to apply so-called 'defensive measures' against jurisdictions so listed. A paper outlining possible 'defensive measures', or actions that one country might take against a listed jurisdiction, has already been prepared under the auspices of the G20 (OECD 2015)[5].

This G20 process sits alongside the work being undertaken by the European Union (EU) as part of its work on good tax governance. EU ministers have committed to the development of a list of 'uncooperative jurisdictions' that will be finalised at the end of 2017 (European Council 2016). The development of the list also includes three criteria that, notably, extend beyond the G20/OECD list's focus on the implementation of tax transparency standards, to consider aspects of a jurisdiction's tax regime that are thought to facilitate aggressive tax planning and tax avoidance. The criteria are that jurisdictions must have:

- met/committed to international tax transparency standards (largely aligned with the G20/OECD criteria identified above);
- met the EU's 'fair taxation' criteria, meaning that the jurisdiction does not have harmful tax measures as defined by the EU, nor facilitate the creation of an offshore structure that can be used for profit shifting; and
- committed to the BEPS implementation framework, including the four minimum standards (see above).

Initial indications suggest that a number of Commonwealth small states that host IFCs will be a part of the screening process that will take place throughout 2017 (BNA 2016). The last criteria may involve a number of small-state IFCs being asked to engage and sign up to the BEPS implementation framework. Similar to the G20 process, the EU process may see certain 'counter-measures' applied against listed jurisdictions (European Commission 2016).

6.8 Other recent developments

6.8.1 Effectively tracing company ownership structures

As an example of the fluid regulatory environment in which small states hosting IFCs operate, 2016 also saw the emergence of new transparency initiatives. While not

representing 'international standards' in the sense that they have been endorsed by the G20, emerging initiatives related to identifying the beneficial (or ultimate) owners of entities have nonetheless received significant attention, in large part because of the domestic political context in a number of G20 countries in the wake of the 'Panama Papers' and the increasing influence of non-governmental organisations in the international narrative. While the push to create publicly searchable registers of beneficial owners, which received attention at the time of the UK-hosted anti-corruption summit in London in May 2016, appears unlikely at this stage to receive broad international support, a related initiative for the automatic exchange of beneficial ownership information between jurisdictions has already been supported by more than 50 jurisdictions.

6.8.2 Withdrawal of correspondent banking relationships

A concerning development that has emerged over the last few years, and is receiving increasing international attention, is the withdrawal of correspondent banking relationships (CBRs). These relationships with global banks allow businesses and financial institutions in other jurisdictions to access the global financial system, facilitating for example wire transfers and other cross-border business transactions. The well-reported closing of these relationships by global banks has affected many small jurisdictions, particularly in the Caribbean (Commonwealth Secretariat 2016b), posing challenges for all such jurisdictions but representing a significant challenge for the operation of IFCs dependent on the smooth flow of capital. While the drivers of this withdrawal are multiple and complex, the increasing international dialogue focused on solutions has emphasised the need for affected jurisdictions to continue to strive to implement global regulatory standards. Reflecting in part the role that jurisdictional reputation may have as a contributor to the withdrawal of these relationships, a recent IMF staff report called on states hosting offshore financial centres to reconsider the sustainability of business models that rely on opaque or offshore structures (Erbenová *et al.* 2016).

6.9 Concluding remarks

The above discussion highlights that small states that host IFCs operate in a quickly evolving and complex regulatory environment, one that continues to see soft-law 'listing exercises' used as a means of enforcing evolving global norms.

This has a number of implications for states. The first is simply the immediate challenge it poses to jurisdictions needing to allocate scarce resources to understand and then effectively implement new standards. This will require not only technical resources, but also political will – will that the impending development of blacklists linked to the meeting of such standards is intended to support.

The second, of more significance in the context of this chapter, is the challenge faced by small states seeking to understand and respond to the broader implications of the international tax and regulatory agenda in terms of the role they have sought to play in GVCs, particularly in the structuring of MNEs. While the international tax transparency agenda is already and will continue to have an impact on the role played by small state IFCs, the broader tax avoidance agenda, which has focused on curbing the ability of MNEs to artificially shift profits to low- or no-tax jurisdictions, will clearly affect the role that some IFCs have played in GVCs. The BEPS process, both in its policy scope and possibly its implementation, is of course not perfect, with the overall stated goal of the project tempered by a reluctance of major economies to act too boldly, such that national firms are placed at a competitive disadvantage or inward capital flows currently facilitated through IFCs are placed at risk. Nonetheless, the BEPS project, and the fact that the public

discourse around multinational anti-avoidance is likely to remain strong (and likely to provide the basis for further unilateral or multilateral action), seems likely to reduce the role of some IFCs in corporate finance.

This of course is not the end of the story for small states that have sought to develop IFCs as a means of economic diversification and indeed, depending on the business model employed, aspects of any one IFC may be largely unaffected by the unfolding international agenda. Nonetheless, for those that are affected, the need remains for these economies to identify viable ways to support their growth and development, including through their ongoing participation in GVCs despite challenges posed by their size and geography. For many of the more successful IFCs, having now established both the infrastructure and professional base to provide high-value financial services, this will involve identifying further opportunities to consolidate and build on the substantive activities already taking place in those jurisdictions – drawing on other non-tax advantages offered by the jurisdiction, including proximity to key investment destinations, physical infrastructure and a strong reputation in terms of meeting international standards and regulations.

Notes

1 Economic Adviser, Commonwealth Secretariat. The views expressed in this paper are the authors and do not reflect those of the Secretariat.
2 See Stoll-Davey (2007) for further information.
3 A unilateral measure of the US Congress designed to ensure that non-US financial institutions report accounts held by US citizens abroad.
4 With first exchanges to occur by 2018.
5 See in particular Annex 1, 'Report on tougher incentives for failure to respect the international exchange of information standard'.

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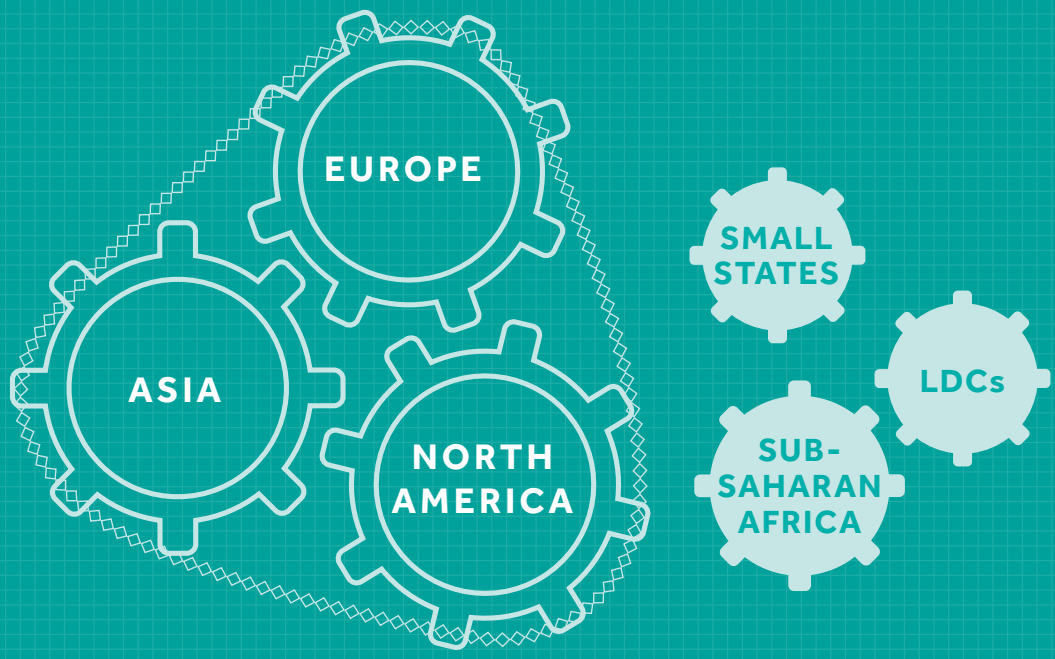
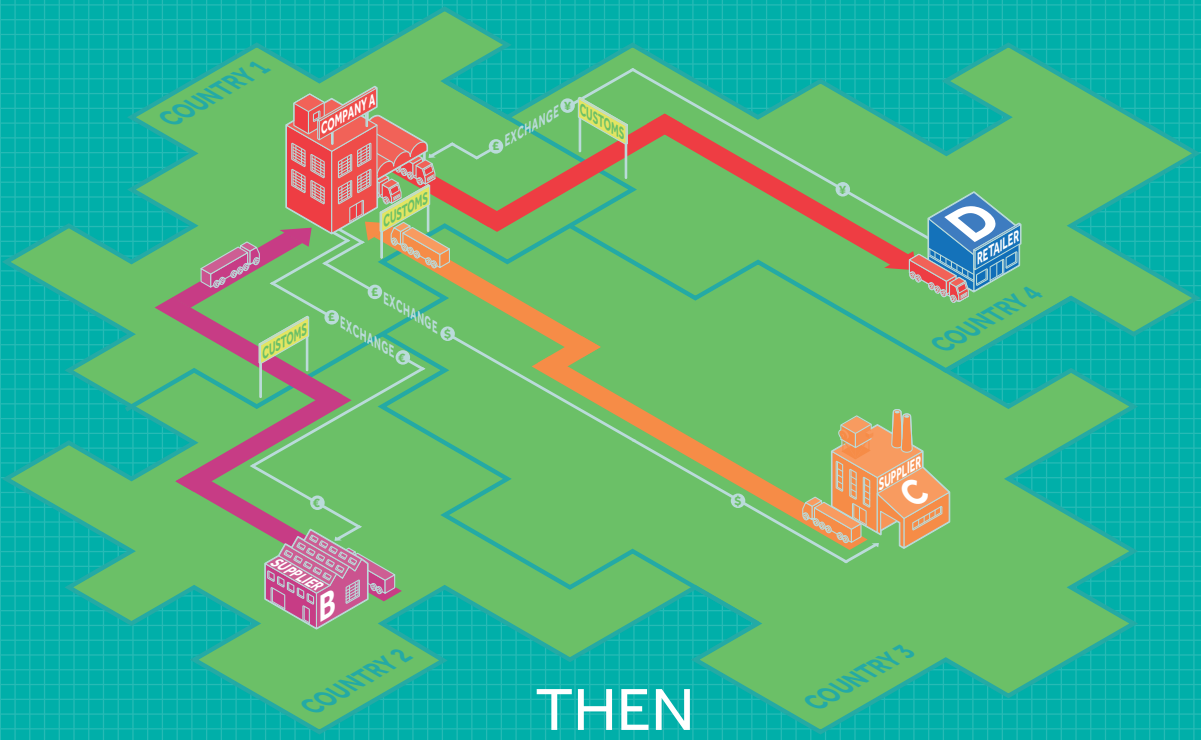
Section 3: Sectoral Developments

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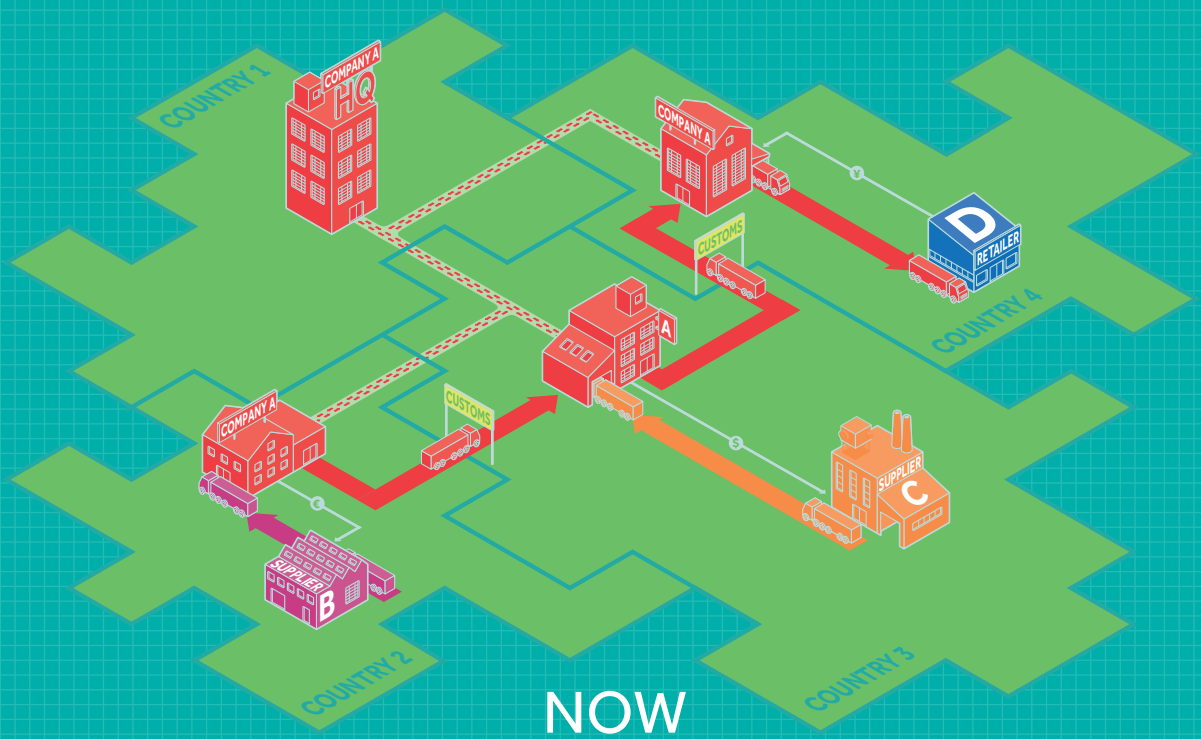
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Chapter 7

Commodity Price Volatility: An Evolving Principal–Agent Problem

John Struthers[1]

Abstract

This chapter analyses the changing dynamics within commodity markets and increasing price volatility using a principal–agent framework. Adopting this more micro-perspective helps to shed light on the role of informational asymmetries within trading relationships and how these may be influenced by contractual arrangements. More fundamentally, this chapter reflects on how the fragmentation of production processes within commodity markets has influenced the transmission of information. In some cases, this has increased the opportunities for opportunistic behaviour. Within the context of agricultural commodity markets, the chapter reflects on the interactions between four entities: institutions, governments, markets and individuals. To address some of the challenges that may result from information asymmetries, a number of options to advance compatibility of incentives are identified, including greater consideration of contractual arrangements, price-risk management instruments and the creation of commodities exchanges within producing countries.

7.1 Introduction

Price volatility in primary commodity-producing economies has long been an issue of concern to development economists and policy-makers. The academic literature on the causes and consequences of price volatility has a long pedigree and that literature extends across a range of diverse issues.[2] These include:

a) What are the underlying structural factors that lead some less developed countries to depend heavily on just a small number of primary commodity exports for much of their export revenues?

b) What is the impact that such price volatility has on income volatility among farmers and other producers of such commodities?

c) What risk management strategies can be adopted to reduce price volatility, and what role can price-risk management mechanisms such as commodity futures and options play in reducing this risk?

d) What are the practical implications of different types of interventions in commodity markets aimed at stabilising prices? These interventions have varied over the years from the traditional international commodity agreements (ICAs), which ended in the 1980s and 1990s, to the more recently created commodity exchanges (Gilbert 1996).

The main aim of this short chapter is to consider the efficacy of these alternative forms of intervention in terms of a proposed framework (or taxonomy) based on a *principal–agent* perspective. This taxonomy will then allow us to formulate a *scorecard* approach to evaluate the alternative interventions. Finally, with

the aid of a short case study of the Ethiopian Commodity Exchange, we will then be able to analyse whether or not such a market-based intervention is preferable to other forms of intervention such as the ICAs.

7.2 What are the main risks faced by commodity producers?

The literature has long recognised that the risks faced by producers vary across products and countries, as well as according to the size of the producer. Small producers will face greater challenges than larger producers, especially in having to deal with 'natural' or catastrophic risks (e.g. due to adverse weather and other factors such as pestilences). Small producers often lack the knowledge and know-how to be able to utilise the full range of market-based risk management instruments (UNCTAD 1998). It should be noted that farmers are prone to *production risk* as well as *price risk* from these natural sources.[3] The cost of insuring against adverse events can be prohibitive for small producers.

In terms of price risk there are similar constraints, especially on small producers, which limit their capacity to use futures markets for their products. Two such constraints are the issue of *standardisation* and the need to ensure the *quality* of their produce. Even the possibility of using international prices as benchmarks may be problematic when domestic prices are often not correlated strongly with international prices (e.g. because of *high transfer prices*). Governments are probably in the best position to use the full range of financial instruments such as futures, options or over-the-counter (OTC) contracts.

7.3 Commodity price volatility: from a stakeholder approach to a principal–agent approach

In a seminal paper by Varangis and Larson (1996), a *stakeholder* approach is adopted to analyse commodity price volatility. Varangis and Larson suggest commodity price volatility can be analysed in terms of the interactions between four entities: *institutions*, *governments*, *markets* and *individuals*.

The emphasis of this chapter will be to analyse the various types of interventions in commodity markets within a *principal–agent* framework, which in essence is a more formal version of a stakeholder approach. Our main contention is that, as a consequence of the many reforms in commodity markets and especially the move from ICAs to the use of market-based instruments such as derivatives and, in more recent years, the creation of local commodity exchanges within producing countries, evaluating such initiatives in terms of the principal–agent framework can provide insights.

As suggested by Varangis and Larson (1996), the role of *institutions* is pivotal. The impact of institutions will depend on the legal and regulatory context in which the production of primary commodities is organised in developing countries. If there is a formal marketing board (such as the Ghana Cocoa Board, Cocobod) whose responsibility is to co-ordinate and market the overall supply of the commodity to markets, it will make a difference whether it operates as an active market participant (buyer) or as a third-party margin (buffer) provider. If the latter, the marketing board's role will be simply to absorb surplus output, or to provide extra supply (from previous buffer stocks) when supply would otherwise be low.

The second stakeholder entity is the *government* in the producing country. Its role will depend on how dependent the economy is on a particular commodity in terms of overall export revenues. UNCTAD defines commodity-dependent developing countries (CDDCs) as those that depend on commodities for at least 60 per cent of their total export revenues (UNCTAD 2015a). A general trend over the

last 30 years has been to reduce government intervention in these commodity markets and to allow a greater role for the market, usually after a period of market liberalisation. In many cases this involved the scrapping of marketing boards and the ending of buffer stock regimes. This was often done alongside wider reforms, e.g. currency devaluations and price deregulations. The literature has suggested that such reforms have contributed to commodity price volatility (Gemech and Struthers 2007; Gemech *et al.* 2011).

The third entity is the *market*. Different commodities will face diverse international market structures, which will determine the scope that individual producer countries have to determine output levels. Oil is very different from coffee, cocoa and tea. The former may be heavily controlled by a large cartel such as the Organization of the Petroleum Exporting Countries (OPEC), and the market power that a major swing producer such as Saudi Arabia enjoys. For beverage crops such as coffee, cocoa and tea, the market structure is quite different, with no formal international cartel in operation, even though there are still some swing producers (e.g. Brazil and new producers such as Vietnam in the case of coffee). Central to this issue is the pivotal role played by some of the large buying companies.[4] For many primary commodities, there is a complex dynamic between the *suppliers* (the farmers), *buyers* and the various intermediaries which operate between both. In this context, much has been written on the complexities of global value chains (GVCs) for a wide variety of commodities. Indeed, it could be argued that each commodity has its own unique type of GVC (UNCTAD 2013).

The fourth entity from the Varangis and Larson study is the *individuals* who play such a central role within primary commodity-producing countries. We can identify no fewer than five individual participants within the GVC for most primary products: the *producer* (e.g. farmer), the *retailer* (e.g. a marketing board), a *government procurement official*, an *exporter* and of course the ultimate *buyer*. For most primary commodities, the supply (or value) chain is complex and lengthy. The adoption of appropriate price-risk management instruments might simplify and shorten these chains, which ultimately may be to the benefit of producers and farmers. Moreover, the adoption of a formal commodity exchange, such as that operating in Ethiopia, can also facilitate this.

There is no doubt that, the longer and more complex is the supply (value) chain for a particular commodity, the more complex are the potential principal–agent problems. The seminal article on principal–agent theory is that of Jensen and Meckling (1976), which presented a framework that is ubiquitous to all contracts and which we apply here to commodity markets.

In all contracts in which one party (the principal) delegates tasks to another party (the agent), the principal–agent problem is characterised by the following potential conflicts of interest between the two parties:

1) *goal conflict* (more formally referred to as *incentives misalignment*);

2) *verification* or *monitoring problems*, i.e. the principal cannot (or it is prohibitively costly to) verify what the agent is doing at all times; and

3) the fact that the two parties to a contract will have *different risk preferences* (this relates to *moral hazard* and *adverse selection*).

An overview of principal–agent problems appears in Boxes 7.1 and 7.2.

One of the central themes of Varangis and Larson's paper is that the potential for conflict between the four entities arising from, say, price risk can be reduced provided that the producers (farmers) can avail themselves of the full range of price-risk management instruments available to them. We discuss this in terms of a *principal–agent* framework.

Box 7.1

Principal–agent (P-A) theory overview

1) *Main concept:* P-A relations need to internalise an efficient organisation of information and risk-bearing costs.
2) *Unit of analysis:* contract between P and A.
3) *Assumptions:* self-interest, bounded rationality, risk aversion, goal conflict, information asymmetry between P and A, ability to purchase information.
4) *Contracting issues:* moral hazard and adverse selection, risk sharing.
5) *Examples:* measuring performance, regulation, transfer pricing.

Prior to the reforms in commodity markets within producing countries, *marketing boards* played a significant role in these markets. We can refer to them as the *principal* and the producer (farmer) as the *agent*. Now, with marketing boards no longer playing such a dominant (or, for many commodities, any) role, it is likely that the *international trader* (exporter) will be the *principal* and the *producer* (farmer) will be the *agent*. However, it is more complex than this. In the consuming country it may be the *international buyer* who now plays the role of *principal*.

What this means is that principal–agent relationships can change and evolve over time, and it is possible that individual market participants can be both principals and agents according to their different roles and their positions in the GVC. Moreover,

Box 7.2

The main predictions of principal–agent theory

The main predictions of principal–agent theory are:

a) Information asymmetry leads to opportunistic behaviour by agents (shirking).
b) Opportunistic behaviour is greater when the contract is behaviour oriented (based on salaries, hierarchical governance), as opposed to an outcome-oriented contract (bonuses and commissions rather than salary, use of stock options, market governance).
c) Outcome-oriented contracts are more effective in limiting opportunism (i.e. the principal and agent are more likely to avoid goal conflict).
d) The principal has to invest in information systems to verify the agent's behaviour.
e) The greater the role of outcome-based contracts, the lower is the agent's level of risk aversion.
f) Task programmability and measurability are easier when the contract is outcome based.
g) Goal conflict is lower when the relationships between principal and agent are long term rather than short term.
h) Greater decentralisation in decision-making (e.g. within the supply/value chain) leads to a stronger focus on costs. This leads to behaviour-based contracts rather than market-(outcome)-based contracts (also a transaction cost issue).

these changing and overlapping roles will be influenced by such factors as market liberalisation and development of price-risk management instruments, including formal commodity exchanges. We argue that the principal–agent problem may have become more complex after market liberalisation (Boxes 7.1 and 7.2).

Prior to market liberalisation, most commodities had to be supplied to the market through marketing boards (regarded as the *principal*), which would negotiate transactions either directly with farmers (the *agent*) or via their farmer associations (*principal* to the farmers, but *agent* to the marketing board). The interaction of these different intermediaries is the essence of the principal–agent problem. The potential for *multiple principal–agent relationships* is strong. This is even before we get to the exporting level, where another set of principal–agent relationships emerge between the marketing board (the *principal*) and the exporter (the *agent*).

Since market liberalisation, the principal–agent problem now also extends to the consuming countries. Once again the potential for *multiple (overlapping) principal–agent relationships* exists, e.g. between importer, market brokers and final consumers. Before market liberalisation, the ICAs were the international equivalents of the domestic marketing boards, since they operated as physical market trading entities (e.g. the International Coffee Agreement). It could be said that markets were controlled by a type of *bilateral monopoly*.

After market liberalisation, the principal–agent problem arguably becomes more complex. This is because although the domestic context for producers became less complex with the disappearance of the marketing boards, which acted as intermediaries between the producers and the exporters, along with the demise of the ICAs at the international level, there is the potential impact of *speculators* to consider. As a consequence of market liberalisation, it can be argued that domestic intermediaries have simply been replaced by new (international) intermediaries in the form of brokers and speculators.[5] The complexity of all of these principal–agent interrelationships will be compounded by the inherent supply/value-chain (GVC) complexities that exist in commodity markets, which will vary from commodity to commodity.

7.4 From international commodity agreements to domestic commodity exchanges

The ICAs (*commodity stabilisation funds* and *buffer stocks*) were mechanisms used up until the late 1980s to stabilise commodity prices, as well as to increase their average price levels. These types of market interventions were very inflexible. Moreover, because many primary commodity prices are subject to long and variable cycles, they were also costly to implement, as they incurred high transaction and brokers' costs. Invariably the costs of such interventions were borne by the producers and governments in the exporting countries. Varangis and Larson (1996) suggest the following reasons for the demise of the ICAs:

a) conflicts between producing and consuming countries;

b) the complex GVC issues that often beset such agreements;

c) their inability to respond to changes in both production and consumption patterns; and

d) their failure to establish realistic price levels in the context of steady and persistent price falls for many of these commodities in the 1980s and 1990s.

We also argue that their demise can be explained within a principal–agent framework.

A priori, it can be argued that a greater reliance on market mechanisms such as commodity derivatives will pass on more risk and uncertainty to producers and away from

governments. Certainly, one result of market liberalisation is to pass on commodity price risk from government to the private sector. For many primary commodities, investment decisions have to be made long before any actual production is realised. This is especially true of many tropical products such as the beverage crops, coffee, tea and cocoa. However, as Gemech *et al.* (2011) have argued, the existence of a futures price for their commodities should improve the resource allocation of producers. Without the availability of such derivatives instruments, their profit margins would need to be much higher to protect them in the event of adverse price movements.

In the context of the main objective of this chapter, it is worth debating whether each actor in the value chain will benefit equally from the existence of a futures or options instrument for their product. The exporter, which is probably furthest removed from the production stage, is likely to benefit most, partly as a consequence of being able to benefit from economies of scale as it scales up its activities. Of course it can also be argued that it is the exporter that bears the greatest risk, almost as much as the primary producer. As far as the producers themselves are concerned, for many primary commodities there may be insufficient volume to be able to participate in a futures contract, as well as appropriate infrastructure, know-how and capital to benefit from such transactions. However, they can benefit indirectly through intermediaries, which, as third parties, may be able to bear the volume risks collectively on behalf of a group of producers. The same role can be performed by farmer associations or co-operatives.[6]

In recent years, commodity exchanges have been established in a growing number of emerging and developing economies such as Brazil, China and India, as well as an increasing number in African economies, although sometimes with only limited success (Ethiopia, Kenya, Uganda, Malawi and South Africa).[7] Originally, prices within these exchanges simply mirrored those in developed-country exchanges. More recently, however, there has been increased trading in locally based exchanges, which facilitates the avoidance of exchange rate risk as well as basis risk, as is the case with the ECX.[8]

7.5 Principal–agent theory applied to commodity markets: a suggested taxonomy

Table 7.1 outlines a taxonomy of these main principal–agent indicators by comparing possible outcomes *before market liberalisation* and *after market liberalisation* in commodities markets for a range of alternative market interventions including the setting up of a *commodity exchange.* It also shows the potential impact of different types of commodity supply/value chains (GVCs) on these indicators.

An overall conclusion in terms of the principal–agent indicators is that the move towards local commodity exchanges in developing countries may have reduced the negative outcomes arising from the principal–agent framework. For example, to the extent that long-term relationships can be more easily established between the producers and these exchanges, this can be expected to reduce goal conflict (increase *incentive compatibility*) between principal and agent. However, as the table shows, this will also depend on the extent to which the local commodity exchanges are able to persuade the producers to adopt a more output-based approach to production and move away from a behaviour-based approach.

This potentially favourable outcome will also depend on whether or not the local commodity exchanges can develop a sufficient presence in producing countries. A common problem that can hinder the successful operation of commodity exchanges is when the underlying markets are thin and lack sufficient liquidity. Here there is a crucial role for effective *information dissemination.* This has been well documented by international organisations

Table 7.1 A comparison of possible outcomes *before and after market liberalisation* in commodities markets for a range of alternative market interventions

**Principal–agent indicators*	Before market liberalisation		After market liberalisation		Impact of supply/ value chains
	ICAs and marketing boards	Commodity stabilisation funds (e.g. IMF CCFF)	Derivatives, futures, options (ETF)	Local commodity exchanges	
1) Contracts (behaviour-based versus outcome-based)	Satisficing behaviour; rent seeking; shirking	Ex-post adjustments; potential satisficing behaviour	Reduced rent seeking; 'efficiency' (depends on effect of speculation)	If more outcome based, has incentive effect	Complexity high depending on supply chain
2) Assumptions (self-interest, bounded rationality, risk aversion)	Bounded rationality high; risk aversion by agent high	May reduce risk aversion; risk mitigation	Basis risk and counterparty risk still exist; futures/ options prices remain volatile	Low liquidity; thin markets; consuming countries (buyers) may have more power	Complexity high depending on supply chain; bounded rationality and risk aversion high
3) Goal conflict (asymmetric information, moral hazard, adverse selection)	Moral hazard and adverse selection high	Moral hazard and adverse selection high	Neutral	Long-term relationship may reduce goal conflict	Goal conflict will be high if supply chain is complex
4) Risk sharing (asymmetric)	Potential 'loss aversion' approach based on prospect theory	Some potential for risk sharing	With options, downside risk minimised; with futures, high margins needed	Reduced; exchanges play a strong price discovery role	Other risks (e.g. weather, idiosyncratic); long and complex supply chains give more power to buyers
5) Transaction costs	High	Neutral	Reduced	Reduced	High costs; depends on supply chain; number of intermediaries
6) Verification and monitoring costs	High	High	Reduced	Reduced; government cost reduced	High costs

Notes: CCFF, compensatory and contingency financing facility; ETF, exchange-traded funds; IMF, International Monetary Fund

such as UNCTAD (2009). The hope is that commodity exchanges will be able to play an increasingly significant role to help producers in terms of *price discovery* (UNCTAD 1998, 2009).

An important caveat is that there is now more of a possibility that the negative effects of the principal–agent problem will originate from *consuming countries* rather than producing countries. This may also be a consequence of the increasing financialisation of commodities markets, especially since the global financial crisis of 2008, which led many investors (e.g. hedge funds) to re-allocate their investments into commodities and away from equities, bonds and currencies. Although this process can be very cyclical, the overall trend in the last

20 years has been for this type of investment to increase (Tang and Xiong 2012). More generally, the principal–agent taxonomy allows us to concur with the conclusions of Fitter and Kaplinsky (2001) and the South Centre (2013), who have argued that a major effect of market liberalisation in commodity-producing countries has been that it has contributed to the consuming countries having more power and the producing countries less power. This negative outcome will be greater the more complex are the supply/value chains for individual commodities.

7.6 Conclusions and policy implications

This short chapter has attempted to contextualise the issue of commodity price volatility within the framework of principal–agent theory. It reviewed the relevant literature and considered a variety of market interventions in commodity markets, ranging from the traditional interventions, such as ICAs and domestic marketing boards, to the more recent price-risk management schemes such as commodity derivatives (futures and options) and commodity exchanges. The chapter's main conclusion is that the market for primary commodities, especially in the period after market liberalisation, is potentially more complex than in the period before market liberalisation. This is especially true if these markets have become more complex and dominated by multiple principal–agent relationships. This complexity has been reflected in greater volatility for a range of these products.[9]

This volatility is greater for some products than others. For example, in the market for tropical beverages such as coffee, tea and cocoa, this may also be attributable to a combination of supply-side factors. These include overproduction caused by new producers coming on to the market (e.g. for coffee), technical advances, the introduction of lower-quality products entering the market (again in the case of coffee) and complex supply/value chains, which can lead to a disconnect between the prices paid by final consumers and the prices paid to producers.[10] This disconnect is largely due to *rent-seeking* behaviour by various intermediaries, who can be expected to appropriate the gains achieved by producers/farmers in terms of productivity improvements. In the case of coffee, this appropriation can be severe because of the many layers within the supply/value chain (Ponte 2002).

Fitter and Kaplinsky (2001) have argued that, for coffee production, the value chain is such that an increasing proportion of the total income accruing in that market has gone to economic agents within the importing countries rather than the exporting countries. This is due to an asymmetrical distribution of power within the coffee value chain. This problem is accentuated by the fact that production is often fragmented in the producing countries. In addition, within importing countries, the conflict between *importers*, *roasters* and *retailers* to grab their share of the rents derived at different stages of the value chain can accentuate negative impacts on farmers.[11] Similar power struggles may exist in the value chains of other commodities.

A key message of this chapter is that, within the context of the principal–agent framework, price-risk management instruments and, where possible, the creation of commodity exchanges may at least achieve a degree of *incentives compatibility.* Moreover, the adoption of a local commodity exchange, such as the ECX, may be viewed as a further extension of these market-based instruments, especially if understood within a principal–agent framework. In that context, such institutions help to mitigate some of the principal–agent conflicts that can beset these markets, especially in terms of risk sharing and potential goal conflicts between principals and agents. Of course, principal–agent conflicts will remain no matter what institutional structure pertains within commodity markets. This is equally true of the ECX, where such conflicts will continue to

exist between the owners, the members and the managers of the exchange.

This conclusion is valid, even in the face of a potentially more complex set of principal–agent conflicts that may arise from such an institutional arrangement, especially in a post-liberalisation world. We are not suggesting that local commodity exchanges are a panacea for the issue of commodity price volatility and commodity dependence generally. Rather, the way forward for primary commodity-producing countries still lies in longer-term solutions to diversify their export base away from an overdependence on commodities. However, this objective has to be pursued at the same time as the key stakeholders (producers/farmers, exporters) ensure that they maximise their gains at different points along the GVCs for their commodities.

Notes

1 Director of the Centre for African Research on Enterprise and Economic Development (CAREED), School of Business and Enterprise, University of the West of Scotland.
2 An earlier version of this chapter was presented at the UNCTAD (United Nations Conference on Trade and Development) Multi-Year Expert Meeting on Commodities and Development, 20–21 March 2013, Geneva.
3 Papers by Dercon (2004), Dercon, *et al.* (2005) and Morduch (1995) analyse a range of different shocks that can adversely affect vulnerable countries (e.g. Ethiopia), as well as the necessary consumption- and income-smoothing aspects of these shocks.
4 Usually large buying companies such as Nestlé and Starbucks, rather than countries, play this role.
5 This complexity is compounded by the existence of different types of speculators that act in various capacities as market participants. These include *informed*, uninformed and *noise traders*.
6 There are examples from developing countries where these farmers' associations and co-operatives have been effective in operating on behalf of producers. For recent evidence on this, see the recently published UNCTAD report on *Smallholder Farmers and Sustainable Commodity Development* (UNCTAD 2015b).
7 Rashid, *et al.* (2010) have suggested that the development of domestic commodity exchanges in many African countries is impeded by the small size of many domestic commodity markets, poor physical infrastructure and inadequate legal and regulatory environments. For these reasons, they argue that the development of regional exchanges might be a better option for such countries. This will be beneficial to member countries if combined with improving investment in transport and other physical infrastructure (e.g. warehousing) and improved information services.
8 Exchange rate risk and basis risk can themselves emanate from diverse sources (e.g. tariff and other non-tariff barriers).
9 See UNCTAD (2012) for a discussion of this volatility.
10 See UNCTAD (2004) for a discussion of trade performance and commodity dependence in African economies.
11 See UNCTAD (2011) for a technical discussion of the underlying causes of price volatility in world coffee and cocoa commodity markets.

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Chapter 8

How Does Participation in International Value Chains Matter to African Farmers?

Nora Dihel[1], Arti Grover Goswami[2], Claire Hollweg[3], Sohaib Shahid[4] and Anja Slany[5]

Abstract[6]

The traditional understanding is that structural economic transformation takes place across sectors. This chapter instead considers the process as taking place within sectors and induced through engagement with different types of value chains with alternative contracting arrangements. Through pilot studies undertaken in agricultural value chains in Africa, it presents evidence of divergent patterns of structural transformation within sectors, mediated through alternative contractual relations. With a focus on maize, cassava and sorghum in Ghana, Kenya and Zambia, the results help shed light on the specific policies and types of contractual arrangements that can assist in supporting the movement of producers towards higher-value intermediate processes and final outputs, thus enabling higher and more stable incomes. Within this context, the results from the studies suggest a greater focus on strengthening regional value chains, particularly in the agriculture sector.

8.1 Introduction

Trade and participation in international value chains (IVCs)[7] can play a key role in economic diversification and development. However, traditional views about how to use trade to leverage growth still dominate the policy discourse. Using trade to move from agricultural production into industrial activities is often seen as the only way of generating trade-led growth and employment—a thinking much in line with traditional views of structural transformation.[8] However, this chapter takes a more nuanced approach to economic development and focuses on increasing productivity, upgrading and organisational change within sectors. This approach is particularly relevant in an increasingly globalised and specialised world where borders between economic sectors have become growingly blurred and a focus on tasks has become more meaningful.

The objective of this new, exploratory analysis is to invigorate and deepen the discussion about productivity growth and structural upgrading within agriculture in Africa, and the role of regional and international value chains in supporting such structural change. Focusing on maize, cassava and sorghum in Ghana, Kenya and Zambia, the World Bank's Can International Value Chains Drive Transformational Productivity Growth in Africa? project aims to test whether the involvement of farmers in a regional or international value chain supports economic transformation within the agriculture sector. It does so by looking at farmers who are suppliers to IVCs (or who are on a contract, as a possible entry point into IVC arrangements), as well as non-participants and dropouts,[9] to shed some light on policies that can support farmers to

upgrade to higher-value intermediate processes and final outputs and earn a higher and more stable income.

Analysis in this chapter is based on quantitative and qualitative pilot surveys. As part of the pilot surveys undertaken for the project, a total of 654 farm households, 41 key informants, including processors and brewers, and 8 stakeholders were interviewed in the three countries under examination. As part of the main surveys, a total or 3,935 farmers, 60 aggregators and 56 buyers were interviewed.

8.2 The characteristics of contract farmers, non-participants and dropouts

Results indicate that market conditions are different for the selected crops—maize, cassava and sorghum—across the three countries. While maize in Kenya and Zambia is clearly a well-established and complex value chain, one with significant government investments and that benefits from interest from key stakeholders, the sector remains less developed in Ghana. Cassava and sorghum are emerging value chains, with the potential to be the next frontier crops to mitigate the impacts of climate change. Moreover, cassava can lead to densification of value chains, as it can be used as an input in various products and processes, including, *inter alia*, brewing, metals extraction (copper, gold and cobalt), ethanol production, starch-making and animal stock feed.

The results also show that farmers who are on a contract have seen greater economic transformation, in terms of higher output and access to cheaper and higher-quality seeds, fertilisers, pesticides and extension services, than farmers who are not on a contract. Contractual farmers have also had more information on markets, crop prices, buyers and new technology.

Often, farmers under contract seem to have better access to inputs and technologies, through either the out-grower company or other external sources. The majority of surveyed contract farmers (about 70 per cent) reported benefits from input cost reductions (an increase in disposable income) as a result of their contractual arrangement. In all countries, contract farmers have received inputs from contract providers or intermediaries. In Kenya, farmers on a contract have had access to better technology and have seen a higher increase in yield and a greater increase in profits compared with farmers not on a contract. In many cases, the distribution of inputs is supplemented by the provision of market information and the dissemination of technical knowledge.

Though indicators are not fully comparable, contract farmers seem to be more satisfied than farmers without a contract with their buyer arrangement (Table 8.1). Maize farmers reported greater benefits than did cassava and sorghum farmers, mainly because of provision of inputs at early stages of production by maize buyers. The reduction in the cost of inputs is attributed to lower marketing, transportation and storage costs. As a result, the maize value chains in Kenya and Zambia seem to be well developed, have significant government investments and benefit from interest from key stakeholders.

Table 8.1 Happy or not? Satisfaction with current buyer arrangements

	Ghana		Kenya		Zambia	
Proportion of farmers (%)	Non-contract	Contract	Non-contract	Contract	Non-contract	Contract
Happy (to very happy) with current scheme	58.8	82.0	85.2	79.2	67.3	88.7

Table 8.2 Channels for economic transformation trough participation in contracts (% of farmers on a contract reporting specific benefits)

Channels for economic transformation	Ghana	Kenya	Zambia
Access to cheaper inputs	80.6	53.5	48.6
Information on how to produce	87.7	74.4	49.3
Transportation/transactional cost reduction	87.8	76.5	46.0
Access to new and better technology	83.3	60.6	24.0
Access to new crops	81.3	57.5	43.7
Increased crop yield	91.0	79.2	62.3
Access to markets and less risk	93.1	92.7	72.1
Fixing crop price	89.1	81.7	61.9
Increase in profits from crop sales	91.5	79.9	67.4
Connecting with buyers	87.6	72.6	66.5

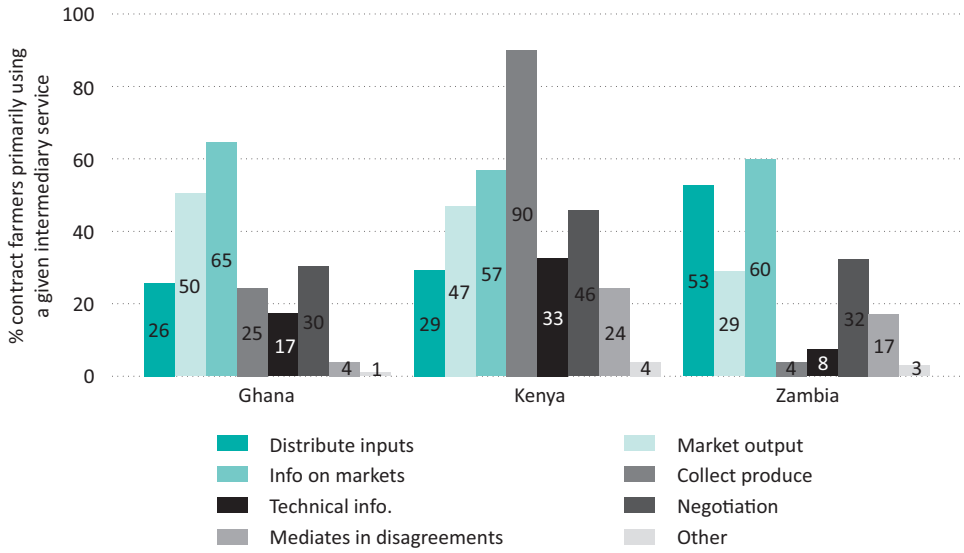
Farmers on a contract reported many benefits from being part of a contract. These include better and more information on how to produce, a reduction in transport costs, access to newer crops, an increase in profits and better ability to connect with potential buyers (Table 8.2 provides concrete examples).

Farmers also benefit from a variety of services from contract providers. While 'information on markets' is the top service contract farmers in Ghana and Zambia receive, 'collecting produce' dominates the services inputs supplied to Kenyan farmers (Figure 8.1).

The income and output gains reaped by farmers on informal contracts often exceed the support received by those on formal contracts (Figure 8.2).

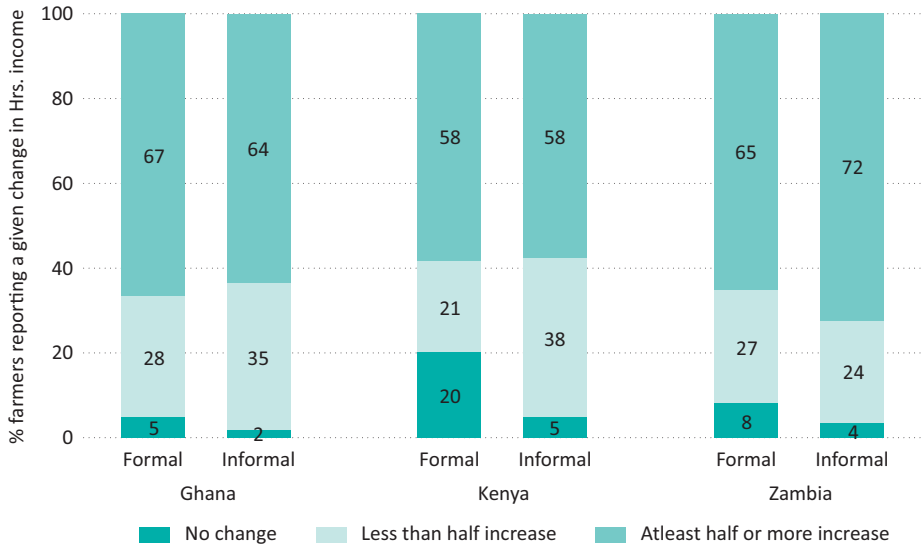
Similarly, support received by farmers on informal contracts is often more substantive than that received by farmers on formal contracts (Figure 8.3).

Figure 8.1 Usage of intermediary services by contract farmers (%)



Source: Author's calculations based on survey responses

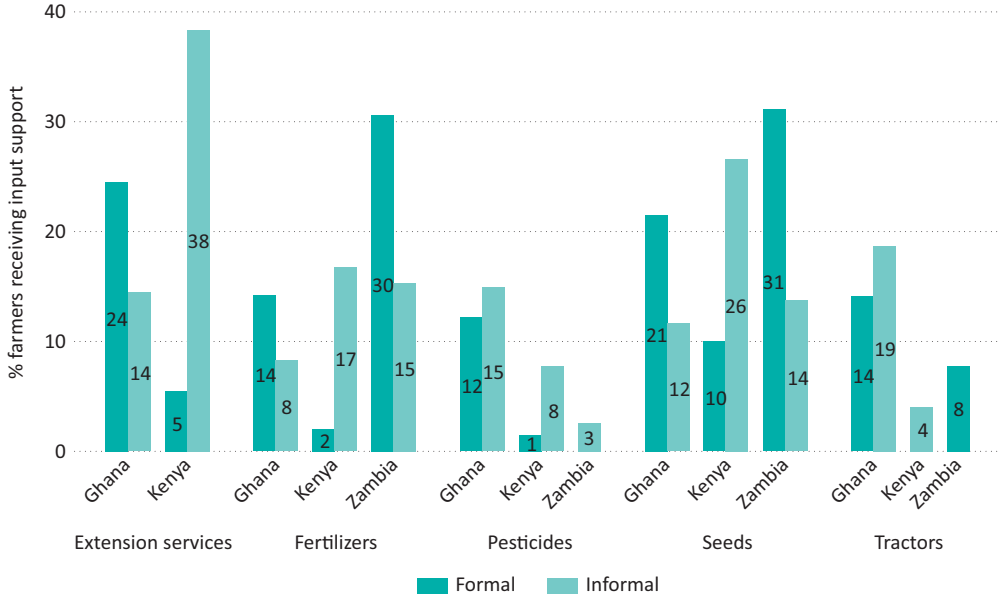
Figure 8.2 Changes in income by contract type (%)



Source: Author's calculations based on survey responses

It is important to note here that being part of a contract does not necessarily mean that the farmer is part of a value chain. However, it would be safe to say that being part of a contract brings the farmer 'close' to the value chain. Therefore, being part of a contract is often an essential but not sufficient criterion for a farmer to be part of a value chain. In terms of farmers under contract, about 50 to 60 per cent of interviewed farmers in Ghana and Zambia knew that they participated in value chains,[10] whereas the majority of interviewed farmers

Figure 8.3 Support received by famers by type of contract (%)



Source: Author's calculations based on survey responses

in Kenya had no knowledge about the usage of their crops. Farmers are often unaware of the final destination of their output beyond their first buyer. This is primarily because the farmer is mostly concerned about being remunerated for the output sold, regardless of whether s/he is on a contract or is part of a value chain. Even if farmers know that the buyer may export their product, they are not necessarily aware of whether *their* product is being exported; even if they know it is being exported then they may not know in *what* amount. This is because a buyer usually purchases from multiple farmers and may export either all of the product or part of it.

8.3 Participation in value chains

Based on these preliminary results, does participation in value chains really matter to farmers? In general, farmers on a contract with knowledge about their participation in value chains tend to lead in terms of upgrading and labour productivity. Most value chains in agriculture in Africa are domestic or regional in nature, rather than global. This suggests that addressing integration at the regional level is critical. Our current efforts focus on linking farmers to aggregators and buyers through an empirical framework. Our surveys reveal that the main contractors have been processors and traders—specifically the milling companies or the food reserve agencies, seed companies and breweries.

Explanations received from Zambian non-contract farmers highlight two key issues: lack of knowledge of any buyers and lack of trust in engaging with intermediaries. Conditions of price discovery are worse for most non-contract farmers. Buyers' lack of knowledge also includes that related to spot buyers.

Crops produced under contract are mainly sold to contractors or their intermediaries. Most farmers participate in a domestic value chain, with products rarely traded across borders. However, some of the value chains stretch across borders, as some of the processor's products reach markets outside the country of production.

- For example, maize produced in Zambia is sold to Democratic Republic of Congo (DRC), Kenya, Malawi and Zimbabwe through the various players in the chain. In addition to being exported as raw grains, maize is sold in processed form, for example as mealie meal, non-alcoholic drinks and breakfast cereals, which are the outputs of national maize value chains.
- Cassava produced in Zambia is sold in neighbouring DRC and is used in the copper mining sector in the form of high-quality cassava flour (HQCF) (85 per cent starch), thus fitting into regional value chains. Encouraged by the government of Zambia, there are also efforts to use HQCF in the brewing industry to make cassava-based beer.
- Cassava produced in Ghana is used in the brewing (dough) and food (fresh or processed) sectors, as well as in manufacturing (HQCF, as a starch source), with some of the starch being exported.
- Kenya is largely a net importer of maize and gets some of it from Tanzania and Uganda. Kenya largely consumes what it produces, but there is transportation from areas of surplus to deficit areas. This function is facilitated by some of the large wholesalers, aggregators and processors, especially millers.

In addition, the following key findings regarding specialisation, various forms of upgrading and productivity of farmers participating in contracts and value chains emerged from the full surveys:

- **Specialisation:**[11] Of the cohort of farmers who have moved towards specialisation, a very large share in Ghana and Zambia belong to the group who are on contracts and also know they are on value chains

(although this could be because farmers in Ghana and Zambia tend to be on a contract and to know they are in a value chain). This pattern is not observed in Kenya, perhaps because of a lack of information on the part of the farmers with regard to participation in value chains or a potential sample bias.

- **Product upgrading:**[12] Of the universe of farmers who have upgraded their planting materials in the hope of improving the quality of their product, a very large share in Ghana and Zambia belong to the group who are on contracts and also know they are on value chains. In the case of Kenya, this pattern is not as strong, perhaps because of a lack of information on the part of the farmers or our sample bias.
- **Process upgrading:**[13] Being on a contract as well as knowledge about participation in value chains seem to be strongly driving the large share of farmers improving their planting techniques. This is also true for Kenya, where 30 per cent of farmers reporting an improvement in their planting techniques were on a contract and knew about their participation in value chains, compared with 11 per cent who were not on a contract and also did not knew they were part of a value chain.
- **Functional upgrading:**[14] In the case of Ghana and Zambia, being on a contract and knowledge about participation in value chains are associated with high incidence of farmers undertaking new tasks. Kenya differs in this regard, although the share is still higher relative to those who are not on a contract and also do not know about their participation in value chains.
- **Output:** The average output of maize and sorghum in the three surveyed countries is higher for farmers on a contract and those who knew about their participation in value chains relative to those who were not on a contract and were also not aware of their participation in value chains. However, simply being on a contract could be enough to drive higher crop output (e.g. maize average output per farmer in Kenya).
- **Labour productivity:**[15] Average output per worker in the surveyed countries for maize and sorghum is higher for contractual farmers with information on their participation in value chains relative to those who are not on a contract and also are not aware of their participation in value chains, as well as those who are on a contract but unaware of their participation in value chains.

8.4 Conclusion and way forward

At this stage, we would emphasise two points. It is important to understand the impact of government policies on the emergence of all examined value chains. For example, in Kenya, the National Cereals and Produce Board and the Food Reserve Agency play a dual role on behalf of the government in terms of managing price stabilising and strategic food reserves. They have a tendency to distort market prices and competition through quotas or taxes, deterring investors from entering the market and developing value chains. In deciding on future policies in the agriculture sector, it is important for countries to recognise that domestic food security, better-integrated IVCs and export growth are not mutually exclusive or even opposing objectives, and could actually be complementary in an improved policy environment.

Results emerging from the aggregator surveys suggest that most value chains in agriculture in Africa are domestic or at best regional, rather than global. This suggests that addressing integration at the regional level is more critical in improving agricultural productivity in Africa. Exploiting the variation in outcomes across farmers, our econometric analysis is

now beginning to uncover the linkages of participation in value chains with enhanced economic opportunities and structural transformation. Such an analysis provides a sound background for opening and influencing the dialogue on regional trade policies.

Notes

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6 This chapter summarises the preliminary findings of the World Bank project Can International Value Chains Drive Transformational Productivity Growth in Africa? These findings are based on the pilot and the main surveys conducted in 2015/16 in Ghana, Kenya and Zambia. The authors thank Paul Brenton and Carmine Soprano for valuable comments on earlier drafts. Jamie Macleod provided excellent inputs.
7 Different studies have defined what a value chain is differently. In our study, a farmer is part of a value chain if s/he sells output to a buyer who adds value.
8 This project adopts a broader interpretation of structural transformation, unlike traditional views that emphasise the reallocation of production factors or resources between sectors. The traditional view considers structural change as fundamentally dependent on modifications in the relative importance of different sectors over time, as measured by their share of output or employment. However, recent literature on structural transformation stresses the role that productivity growth within sectors can play and the potential emerging from moving factors of production between firms within sectors.
9 A farmer who was on a contract in an earlier period but is without a contract in the current period.
10 Farmers know that their crop ends up in a value chain.
11 Specialisation/diversification: number of crops produced by a farmer for the current period and for the previous period. The difference in the number of crops grown in the current period less the previous period is used to measure the change in crop production pattern. A positive difference indicates diversification, whereas a negative difference shows specialisation, and no change is measured with a zero difference.
12 Product upgrading in farm production can be measured through the changes in the quality of planting materials, particularly seeds. A move from a local/traditional variety to an improved or hybrid variety is defined as product upgrading.
13 Process upgrading in farm production can be measured through changes in the quality of planting techniques. A move from traditional/broadcasting techniques to better-recommended techniques such as line planting is defined as process upgrading.
14 Functional upgrading in farm production can be measured through farmers diversifying into new and higher-value added tasks such as food processing, crop marketing and so on.
15 Labour productivity is measured as the output of the given crop per worker for single crop growers only, as it is difficult for farmers with multiple crops to assign labour to specific plots/crops.

Chapter 9

Global Value-Chain Participation and Development: The Experience of Ghana's Pineapple Export Sector

Nana A Asante-Poku[1]

Abstract

This chapter examines the extent to which local factors interact with external conditions to influence participation in global value chains (GVCs). The pineapple industry in Ghana is used as a case study to illustrate how relationships between second- and third-tier suppliers and firms have been influenced by the institutional context, with resultant implications on development. It provides an overview of how participation within the pineapple value chain grew over time, but also how a failure to effectively adapt to major changes in the international market inadvertently led to a subsequent decline. This includes the introduction of new product varieties. Within this context, lessons are derived regarding addressing financial constraints, which it is argued stifled Ghana's ability to respond effectively to dramatic changes in the external market, leading to the ceding of a large portion of market share within this sector.

9.1 Incorporating Ghana into the pineapple value chain

The expansion of high-value agricultural exports has underpinned Ghana's export diversification strategy for decades. Ghana's climate and proximity to consuming markets made it conducive to producing and exporting pineapples, a non-traditional agriculture produce. Such a transition was considered imperative to reduce the economic vulnerabilities associated with a high economic dependency on gold and cocoa. Revolutions in the provision of trade finance, notably the exchange proceeds retention scheme, incentivised businesspersons to enter the pineapple value chain, since it enabled them to acquire foreign exchange (Jebuni *et al.* 1992; Whitfield 2011).

The European Union (EU) was and remains the main market for Ghana's pineapple exports. Exporters initially accessed the market mainly through friends and family (Whitfield 2010a). From 1989 to 2004, exports more than quadrupled, making the country the third-largest exporter of pineapples to the EU, after Côte d'Ivoire and Costa Rica. In 2004, it commanded a 10 per cent share of the market, though this has since declined. The expansion of this sector has assisted in the advancement of social and economic objectives. Horticultural exports have significant potential to increase employment and reduce poverty. According to the *Ghana Shared Growth Development Agenda II* (NDPC 2014, p. 112), the highest reduction in the incidence of poverty (64 per cent to 24 per cent) between 1991/92 and 2005/06 was experienced by households engaged in growing export-oriented crops, such as cocoa and horticulture.

9.2 Ghana's experience: 1986–2004

Initially, the relations between exporters and farmers were market based. This meant that co-operation and co-ordination were weak, as long-term relationships were not established between participants within the value chain. Contracts were usually oral (unwritten), simply indicating a promise to purchase produce at a later date. In a few cases, the provision of production inputs (such as fertiliser) was agreed (Danielou and Ravry 2005; Deb and Suri 2013). Exports were concentrated and the competitive driver was the price.

In 2000, the top five exporters accounted for 72 per cent of exports (Danielou and Ravry 2005). Although this concentration had fallen to 57 per cent by 2002 (Voisard and Jaeger 2003), only 12 out of 65 exporters in 2004 had export volumes of more than 1,000 tonnes per week (OECD 2007).[2] The majority of them (about 60 per cent) had capacities of less than 25 tonnes per week (NRI 2010). Price competition led to a high level of mistrust among exporters, as they undercut each other to sell more. It also meant that farmers could renege on their oral contracts without any consequences: the likelihood of selling produce to another exporter who offered a better price was very high.

This presence of opportunistic behaviour was not limited only to farmers. Exporters also engaged in such behaviour and began to use the approach as a risk management mechanism. Ghanaian exporters who also contracted with smallholders were usually more efficient at producing pineapples themselves. However, they engaged in contractual relations in order to manage their supplies and transfer risks. Exporters would pay lower prices than expected, or agreed upon, especially when fruits were oversupplied or when conditions in the European market turned unfavourable. This meant that the farmer received much less revenue than expected.[3] If a farmer had accessed finance for production, the likelihood of difficulties in repayment was increased.

Value chains thrive on flows of information. Producers, for example, must inform exporters and processors about production quantities, harvest schedules and production issues. Exporters must inform producers about new production techniques, quality and product handling, among other topics. Channels to acquire and share information were missing in the relationship between farmers and exporters. Generally, exporters confirmed orders with EU buyers around 1 week before shipping was due. If they had enough fruit on their own farms to fulfil the order, they did not purchase fruits from smallholders. However, if they did not have enough, the exporters or middlemen would visit known pineapple-farming communities to purchase fruits directly from farmers or in some cases to collect fruits already contracted for.

Farmer or producer training was virtually non-existent (Conley and Udry 2008). The only time that exporters intervened in the production process was near harvest time, when they inspected the fruit before application of the chemical Ethephon, which hastens ripening, and carried out harvesting themselves (Whitfield 2010a).

Through sheer determination, local entrepreneurs had propelled the pineapple industry forwards. From 1994 to 1999, horticultural exports increased by 24 per cent, with pineapples, yams and bananas as lead products (World Bank 2001). In this same period, pineapples contributed as much as 42 per cent of the total non-traditional agricultural export earnings, which includes those from horticulture. Nonetheless, the sector was badly in need of infrastructure. There was no cold chain system at the exit port, and infrastructure on the farms was rudimentary.[4] In some cases, fruits were harvested and packed in the open and transported to the port in any available vehicle. It was not until the mid-2000s, when

the sector was in a crisis, that the government intervened to improve infrastructure.

9.2.1 Co-ordination of the chain

On the whole, given the nature of organisation, it was clear that within the node of production there was no dominant player to ensure that transactions were undertaken effectively and efficiently.[5] Smallholders supplied between 40 and 60 per cent of fruits in the sector (Goldstein and Udry 1999; Jensen 2005; Whitfield 2011). Low-volume capacities meant that the exporters did not have economies of scale and so could not sustain the supply of fruits on a regular basis. Thus exporters participated in the lower-value end of the global chain, e.g. wholesalers and corner shops, rather than at the high end of the market, e.g. supermarkets (Dixie and Sergeant 1998; Whitfield 2012).

9.2.2 Increased financial constraints

Provision of credit for agricultural activities is rare and challenging in Ghana. When the fruits were exported, payment was made on a consignment basis. This involved buyers making payment after the produce had arrived, been verified as meeting the buyer's quality standards, and had been accepted by the buyer and sold on the market. According to our interviews and the African Development Bank (AfDB 2005), exporters used sales agents located in Europe, who indicated (a) the final selling price, (b) the quantity discarded as being of low or poor quality and (c) the expenses deducted for quality inspection, labelling and storage. After the fruits had been sold, the buyer (retailer/wholesaler) deducted its costs and commission and the remainder was paid to the exporter (TAC 2004).[6] This payment method had implications for risk management in the chain, as an exporter's funds were ultimately tied up with the buyer until the goods were sold and payment made. Sometimes, an exporter had to wait for 3 months or more to be paid (Takane 2004), and farmers were paid after that. It also meant that exporters competed on volume, worsening the problems of opportunistic behaviour and unreliable supply.

9.2.3 High levels of risk

Smallholders faced both price and credit risks. These risks were high because it was possible for an exporter to completely renege on its contractual obligations (Harou and Walker 2010). As the farmer's main objective was to sell without making a net loss, smallholders' response to a price risk they encountered was to avoid or mitigate it by selling to the highest bidder regardless of prior agreements with other exporters. This practice, known as 'side-selling', was extremely prevalent. Another response was to contract with a number of exporters and/or processors at the same time.

In interacting with farmers, exporters mainly bore a supply risk, the inability to deliver contracted quantities at a set time. This was likely if a contracted smallholder sold all or part of his or her produce to another exporter, leading to less than expected quantities for export. On the other hand, the exporter was able to transfer its supply risk to the smallholder in times of abundant domestic supply, by not showing up to collect fruit agreed on. Usually, supply risk results in financial risk and/or reputational risk.

Exporters also bore price risks in interacting with buyers. Price risks arose from the perceived quality of the fruit at delivery, a possible drop in consumer demand at certain times of the year, e.g. in summer, and an excess supply of pineapples from other countries. At such times, exporters could, and did, transfer these risks to farmers by reducing the price they paid per fruit, by reducing the volumes they collected or by not collecting fruit at all. Furthermore, lower than expected prices translated into credit risks, as the expected income from supplying a quantity of produce was reduced.

9.3 Ghana's experience: 2005–2013

Dramatic changes in pineapple varieties, as well as the stringency of product and quality standards, began to exert a significant influence on the production and exchange of pineapples between 2005 and 2013. This is because, around the mid-2000s, the pineapple variety MD2 had begun to dominate the EU market. Ghanaian exporters had two choices: diversify to MD2 or develop a strategy to maintain or increase their share of the market with the smooth cayenne variety. Although some exporters had begun efforts to diversify to MD2 in the early 2000s (Voisard and Jaeger 2003; Whitfield 2010b), generally, Ghanaian exporters perceived that they could maintain and even increase their market share by continuing to produce smooth cayenne. Hence, MD2 was not considered a significant threat to production at that time.

However, the EU market demand for smooth cayenne abruptly collapsed in 2005. This price collapse was driven by the resolution of patent issues affecting the MD2 variety. This meant that the price premium of MD2 was eroded dramatically as supply increased (Jaeger 2008; Whitfield 2010b; Whitfield 2012). Because this variety saturated the market, Ghanaian exporters were left with tonnes of smooth cayenne fruits for which there was little demand.

The MD2 variety requires a minimum level of economies of scale to be profitable: the NRI (2010) estimates 16 hectares (40 acres) for smallholders and a minimum of 54 hectares (133 acres) for outgrowers. It also required a new set of agronomic knowledge and skills and used more inputs, e.g. fertiliser, agrochemicals and plastic mulch, than smooth cayenne. While smooth cayenne suckers had been freely available from producers' own farms, or from others at a cost of between US$0.01 and $0.06 (World Bank 2011), MD2 suckers were individually priced at between $0.70 and $0.80. Producers were required to use only those agrochemicals (i.e. fertilisers, pesticides, chemicals) that were authorised for the cultivation of fruits. Sourcing approved fertilisers and chemicals in some cases meant that exporters had to import their own supplies from Europe. Furthermore, to meet retailers' quality standards, exporters had to make investments in infrastructure (e.g. packhouses) and institute worker health and safety practices. Farmers had to be trained in 'good' agricultural practices, e.g. keeping a record of fertiliser dosage and applications, and in knowledge about pesticide residue-limit requirements. Given the already weak knowledge transfer networks and contractual relations between exporters and producers, the new rules entailed higher monitoring and supervision costs.

Donor organisations actively participated in the sector to disseminate MD2 suckers and transfer knowledge of production processes. The overarching goal of such programmes was the establishment of effective agriculture–industry linkages (AfDB 2005; USAID 2009), and this translated into the belief that efforts to disseminate MD2 suckers and knowledge to farmers and exporters would be enough to integrate them into the value chain.[7] However, although laudable, this form of technical assistance needed to be accompanied by other initiatives in the realm of finance. A one-off subsidisation was useful, but to cover their recurrent costs producers also needed access to finance. Their ability to access finance also depended on their access to export markets, which in turn depended on their connection to exporters and ability to access the necessary inputs and knowledge. Hence, co-ordination between chain actors to enable effective and sustainable GVC engagement needed to be strengthened.

9.4 The restructuring of relations

Since the fragmentation of producers was a challenge to the development of the chain,

efforts were made to strengthen producer networks, typically through the use of farmer cooperatives. Moreover, since 2008, written contracts began to form the basis of relationships between farmers and exporters or processors. Having a written contract became standard business practice. Other reasons for insisting on a written contract are market access, guaranteed prices and avoiding opportunistic behaviour. The contracts indicate the price per kilogram, quantity, quality, contract duration and technical assistance. However, in many cases, the contract does not link the farmer with credit from either the buyer or a financial institution. It is only in the production of the sugar loaf variety where producers are able to use their contracts to secure finance from commercial banks, with donor support as a guarantor. Subsequently, producers were able to use their contracts to secure finance from commercial banks, with donor support as a guarantor.

9.5 Improved supply and quality of fruits

The incentive for producers to behave opportunistically is limited in the new governance structure. Both producers and processors make financial and physical investments (i.e. learn about and apply processes) for a crop which has very limited local demand (MD2) or for which the local market has low or no standards (smooth cayenne and sugar loaf).[8]

Transactional dependence, i.e. dependence on one or a few buyers or producers (Pietrobelli and Saliola 2008), served as a major factor eliminating the incentive to behave opportunistically. The organisational practices of processors enhanced their reputation as reliable contractual partners. Such practices included prompt payment, as well as flexibility in payment schedules (previously, producers could wait as long as three months before they were paid for their produce). Nowadays, producers are paid by cheque directly into their bank accounts, two weeks after delivery. According to the small- and medium-scale producers interviewed, processors have never reneged on this.

9.6 Conclusion

This case study demonstrates how effective value-chain development depends on the responsiveness of the domestic enabling environment to changes occurring in the international environment. The inability of the domestic enabling environment to respond in a timely and efficient manner had a significant impact on the chain, especially with respect to access. Horizontal co-ordination has, however, proved useful to allow participants to access resources that they would not have been able to access as individuals. Also, the use of written contracts and a small number of both buyers and sellers has led to a stability of relations, reduced investment risks and smoothed farmers' income flows. Finally, accessibility of credit remains a challenge that hampers the productivity of chain farmers and exporters. Bank lending preferences, the cost of credit and collateral requirements are some of the factors limiting farmer access.[9] A representative of a financial institution commented: 'The long gestation period of pineapple, one year and over, makes it difficult to finance. Assuming you give a moratorium of even four months, you lose some money, as the same amount of money given to a trading business will yield interest and profit over the same period.' The government and financial institutions have to find innovative ways to combat this challenge in order to release the full potential of participation in the chain.

Notes

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2 The top five exporters in 2002 were Jei River, Farmapine, Koranco, Milani and Prudent (Voisard and Jaeger 2003).

3 Fruits not sold to exporters and/or processors were sold on the local market.
4 The ideal temperature for pineapple soon after harvest is between 7° and 8° Celsius (CBI 2014).
5 In 1994, the Sea-Freight Pineapple Exporters of Ghana (SPEG) was formed as a result of innovations in sea freighting of pineapples and air transport capacity limitations in Ghana. As sea freighting of pineapple required a sizeable and consistent volume throughout the year, economies of scale were required. SPEG is in charge of negotiating transportation of pineapples by sea from Ghana for its members.
6 The sales agents charged a commission of between 5 and 7 per cent of the net selling price (AfDB 2005).
7 For example, programmes have taught farmers how to select suckers, force pineapples and degreen them, as well as cultural practices that will ensure high yields (USAID 2009).
8 International supermarkets, e.g. ShopRite, and hotels operating in the country request adherence to the GlobalGAP standard, which began as an initiative across European retailers to harmonise private standards. They generally purchase from exporters and/or processors who they know adhere to such standards.
9 Interest rates are consistently above 25% p.a.

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Chapter 10

Emerging Tiers of Suppliers and Implications for Upgrading in the High-Value Agriculture Supply Chains

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Abstract[2]

Trade preferences in the European market have historically provided a strong incentive to diversify away from commodity dependency and enable a shift towards other forms of high-value agriculture. Within this context, this chapter reflects on the participation by the incumbent Kenya, and the more recent entrant Ethiopia, in the high-value agriculture value chain and the subsector of cut flowers. The emergence of tiers of suppliers is clearly apparent in the case of Kenya, with lead firms emerging as intermediaries, controlling production and supply to retailers. Some Kenyan lead firms are also active in Ethiopia, which pursued global value-chain (GVC) engagement led primarily by foreign direct investment. The evolution of the cut-flower GVC suggests that some Kenyan lead firms have extended their range of services undertaken within the sector across countries, including Ethiopia. This is essentially a form of intra-sectoral upgrading, which has occurred even though functional upgrading in the conventional sense, into international services such as sales and marketing, has not been achieved. These trends have implications for conventional upgrading processes within GVCs. In view of the emergence of tiers of suppliers and powerful intermediaries within GVCs, these findings underscore the importance of analysing conventional learning by exporting processes with due consideration to the type of value chain governance structure in operation. Policy makers have to better understand and distinguish between tacit and non-tacit knowledge flows and their translation into developing producers' capabilities. Close linkages between the public and private sectors are required in order to enable dual processes of economic and social upgrading.

10.1 Introduction

In recent years, through the provision of tariff rents, the international trading system has provided certain groups of countries with incentives to induce movement into the modern export sector. In view of this history, this chapter reflects on the evolution of the cut-flower global value chain (GVC) in Kenya. The horticulture value chain in Kenya first rose to prominence during the 1990s, as retailers began to develop backward vertical integration strategies. At that time, concerns were raised regarding the exclusion of smaller-scale producers, in view of the drive towards economies of scale and scope in production and marketing structures (Dolan *et al.* 1999; Dolan and Humphrey 2000). More recent but less well-known aspects of contemporary value-chain participation includes how some of Kenya's lead firms have now subsequently become powerful intermediaries, both sourcing from and producing in Ethiopia, the new East African entrant into the global cut-flower value chain.

The emergence of powerful intermediaries in their own right has only recently been acknowledged by the GVC literature and most notably in relation to the light manufacturing sector. However, the emergence of tiers of suppliers within the high-value agriculture GVC, and the resultant effects on upgrading processes and governance structures, are less well understood. Contract farming is a form of vertical integration between producers and buyers. The major difference between contract farming and contract manufacturing is that the former is resource-seeking while the latter is efficiency-seeking (UNCTAD 2011). However, both types of trade typically occur within similar types of GVCs in terms of their associated governance structures, driven by large retailers. Contracting arrangements are non-equity modes of production.

In this chapter, first, the evolution of the cut-flower subsector in East African countries, such as Kenya and more recently Ethiopia, is reviewed. We then describe the emergence of tiers of suppliers within the cut-flower GVC in Kenya and summarise the identifiable upgrading processes. These experiences are then contrasted with those identified in Ethiopia. Finally, this chapter concludes with reference to the implications of these findings for conventional GVC governance structures and upgrading processes.

10.2 Evolution of the high-value agriculture and cut-flower global value chain

In recent years, exports in new sectors have been encouraged by the creation of economic (tariff) rents created by the global trading system. The 1970s marked a major turning point in international trade policy, as industrial economies were persuaded to enter into the Generalised System of Preferences (GSP).[3] This period essentially marked the beginning of trade preferences for development. Although the GSP was initially agreed under the auspices of the United Nations Conference on Trade and Development (UNCTAD), the mandate was subsequently incorporated into the General Agreement on Tariffs and Trade (GATT), the predecessor of the World Trade Organization (WTO). Principles of special and differential treatment (S&DT) have subsequently been incorporated into the WTO. This means that all WTO members recognise that developing countries have specific trade needs.

As subgroups of developing countries such as the least developed countries (LDCs) were identified in 1971 and principles of S&DT adopted, so too were limits placed on market access for some traders. For example, quotas were applied on specific product lines destined for developed country markets, most notably textiles and clothing, from the emerging Asian economies. Regional trade policy developments also excluded important competitors from markets. For example, Stevens (2001) describes how EU trade policy effectively excluded many of the most important global agricultural suppliers from the UK market. However, more recently, because of the proliferation of regional and bilateral trade agreements in recent years, there has been a dramatic preference erosion of conventional tariff rents.

For countries in sub-Saharan Africa in particular, because of a failure to negotiate a successor to the trade-related protocol the Cotonou Partnership Agreement (CPA), which expired in 2007, revised dates were set for the removal of autonomous preferences by the European Commission (EC) in 2014. By that time, African, Caribbean and Pacific (ACP) countries that had not agreed and taken the necessary steps towards the ratification of an economic partnership agreement (EPA) – the intended trade-related successor to the CPA – with the EU would be downgraded to the EC's standard GSP. For many ACP countries plugged into GVCs driven by EU retailers, the standard GSP offered by the

EU is less favourable than the previous non-reciprocal regime under the CPA, in terms of both the available tariff rents and the applicable rules of origin.

A comparison between the cut-flower GVCs in Kenya and in Ethiopia is interesting in many respects, but particularly in view of how the trade preference rent made available to Ethiopia was perceived as more secure compared to Kenya over the period 2007 and 2014 (because Ethiopia is an LDC, whereas Kenya is not). As described in the following sections, this perceived security (along with other concerns regarding exchange rate volatility) prompted the relocation of some firms from Kenya to Ethiopia during that period.

10.3 Evolution of the cut-flower industry and trade policy developments[4]

There are two main marketing channels into the European market for cut flowers: through auction houses, which act as intermediaries, or direct to retail. Over time, the number of cut-flower auction houses has been on the decline in the European market. There were around ten in 2011. The merger of the two largest Dutch co-operative flower auction houses in 2007 resulted in the world's largest flower marketplace: FloraHolland (Hortiwise 2012). This auction house was originally a co-operative among Dutch growers, before they began to expand their operations overseas, driven by efficiency as well as resource-seeking motivations. It remains a co-operative, although the geographical reach has expanded; members pay fees to sell their produce within the auction house. The auction house remains a members' club run by the major suppliers. However, a direct sales route also exists, as some members of FloraHolland have begun to establish operations overseas, including in Ethiopia and, to a lesser extent, Kenya.

Unlike the direct sales route, where prices and quantities are agreed in advance, the auction house operates an 'auction clock', whereby the price starts high and is lowered until a buyer is willing to accept the figure; if the minimum price is not achieved, the grower must cover the loss as well as disposal fees (Wishaw 2013). One of the perceived benefits of the auction house route is how it provides for rapid payment; in addition, it enables suppliers to sidestep some of the certification processes typically demanded by large retailers.

More than 75 per cent of the UK's grocery spend is accounted for by the 'big four supermarkets', which exhibit considerable market power.[5] There are significant differences, however, among these retailers in terms of their sourcing strategies, reliance on intermediaries and direct purchasing methods.[6] While some backward vertical integration by retailers has taken place in terms of dealing directly with producers, some Kenyan lead firms have also vertically integrated to control logistics and become preferred suppliers for retailers.[7] Gaining control of particular stages of production, particularly transport and logistics, means capturing greater value. More recently, large retailers in the UK such as Tesco have expressed interest in entering the wholesale market, with a recent merger under scrutiny by the UK Competition and Markets Authority.

10.4 Emergence of tiers of suppliers

Around six UK retailers account for the direct sales route in the case of Kenya and in recent years around half of these have been supplied directly by one major firm, a subsidiary of a major transnational corporation (founded in 1750, originally as a trader and manufacturer of cotton). In recent years, because of continued growth in the sector,

other Kenyan lead firms have emerged. One of these recent entrants now ranks as one of the largest producers and exporters of fresh produce from Kenya and is among Kenya's top five flower exporters. Subsequently, the company has become part of a group that has expanded production into neighbours such as Ethiopia, as well as into Ghana. The operations undertaken overseas have grown from production to packaging and exporting, as well as logistics, energy and general trading This process of upgrading has also begun to be replicated by other lead firms in the sector.

10.5 Country capabilities

The available evidence suggests that Kenya is favoured as a preferred supplier, mainly because of its compliance infrastructure (Table 10.1). In comparison, Ethiopia is viewed favourably for cost.

Table 10.1 Country capabilities

Capabilities	Kenya	Ethiopia
Resource endowment and available hectares in 2010	3,400	1,600
Main products	Range of products available: roses; other decorative flowers High-value rose products (geographical factor)	Roses
Main destinations	66% UK; 17% Netherlands; 5% Germany; 12% other	84% Netherlands; 8% Germany; 8% other
Strengths	Certification and trust in compliance infrastructure: business to business and retailer specific Pool of skilled labour force 10-year corporate income tax holiday Exemption from value-added tax and customs import duty on inputs Business support services, including industry associations	Cost-competitive; incentives provided to investors Cheap labour force Ease of doing business Tax holiday for 5 years; duty-free import of input materials Credit and finance available
Weaknesses	Perceptions regarding pesticide residue issues in the past Perceptions regarding labour standard and rights issues, e.g. minimum wage legislation Difficult to start a business and register property; complex land management and administration Taxes are a problem, with poor co-ordination among government agencies Labour is no longer low cost	Weak compliance infrastructure Weak post-harvest technologies Issues with labour standards and rights, e.g. minimum wage legislation Air freight dictated by government Lack of trade promotion support
Trade policy	Uncertainty regarding the EU-EPA negotiations was a problem Costs resulted from a failure to conclude negotiations by the deadline set by the EC, though more recently EU market et access has been secured	LDC status and security of tariff rent available in EU market Willingness to work with buyers and industry representatives, e.g. Centre for the Promotion of Imports from developing countries (CBI), Netherlands

Source: Adapted from Rikken (2011, 2012), and key informant interviews

10.6 Upgrading opportunities

The range of upgrading opportunities for producers in the modern agricultural sector is similar to those available to new entrants into the textiles and clothing GVC. A form of functional upgrading could entail sales on the domestic market. Gaining control of logistics and supplying retailers with a flower product may be considered broadly comparable to movement from basic 'cut, make and trim' tasks within the garment industry towards movement of supplying a full package and final product, direct. A form of upgrading entails moving from supplying fresh cut flowers towards the supply of complete bouquets and flower 'products'.

There is evidence of Kenyan cut-flower firms moving towards the position of a full package supplier, with responsibility for sourcing all inputs, as in the case of a more relational type of GVC governance (Keane 2014). In comparison, Ethiopia supplies fresh-cut flowers (roses) predominantly to the Dutch auction houses; some supply is destined for UK retailers.

10.6.1 Upgrading in Kenya

In the case of Kenya, the available evidence suggests that the internal governance structures between firms have become complex in view of two major marketing channels: UK retailers and the Dutch auction houses. A new wave of consolidation is under way within the sector. This process is occurring among different types of firms, as described in Table 10.2. For example, Type 3 firms are developing new relationships with Type 2 firms: those firms that deal with intermediaries in the same country, as well as directly with retailers or auction houses based overseas.

It could be assumed that sales to auction houses would be – in terms of a hierarchy of GVC governance (Gereffi *et al.* 2005) – a case of market governance. However, in practice, given overlapping ownership structures between important actors involved in Dutch auction houses and some of the Dutch-owned flower producers based in Kenya, the situation is more complex. As new lead firms have emerged, some retailers have increased purchases direct from growers under long-term contracts. There is evidence to suggest that there is a more relational type of governance between Kenyan vertically integrated lead firms and UK retailers. Firm age is found to exert a significant influence on the likelihood that Kenyan firms supply the direct sales route.[8] This type of value-chain governance structure, identified by Gereffi *et al.* (2005) implies far fewer asymmetric trading relations in view of capabilities than, for example, the hierarchical type of governance.

However, the interaction between different types of knowledge, including codified forms, with producers' capabilities is somewhat problematic with reference to the Gereffi *et al.* (2005) framework. For example, both hierarchical and relational governance structures are characterised by a high complexity of transactions, with a low ability to codify transactions. Within relational structures, producers' capabilities are high in view of tacit knowledge acquisition, while within the hierarchical structure the opposite is supposed. Whose capabilities improve in the supply base (or firm) and how in relation to the acquisition of both tacit and codified forms of knowledge acquisition are aspects which require further elaboration.

The evolution of the cut-flower GVC suggests that some Kenyan lead firms have extended their range of services undertaken within the sector across countries, including Ethiopia. This is essentially a form of intra-sectoral upgrading, which is not currently conceptualised within the GVC governance structures identified by Gereffi *et al.* (2005). Intra-sectoral upgrading has occurred, even though functional upgrading in the conventional sense, into international services such as sales and marketing, has not been achieved.

Table 10.2 Cut-flower subsector in Kenya and tiers of suppliers

Functional capabilities	Description of activities
Type 1: subcontractor/ assembler Product: foliage/summer flowers/roses Supplier tier: marginal supplier	Small and medium-sized firms are integrated into the cut-flower GVC by acting as subcontractors to larger firms (Type 2) or intermediaries. This is a form of subcontracting, in which the Type 1 firm is responsible for the supply of the product up to its final destination, Type 2 firms or intermediaries. In some cases, inputs may be supplied by Type 2 firms to Type 1 firms, depending on the subcontracts and end product specified. These farms tend to be relatively small scale and specialise in a limited number of cut-flower types, including summer flowers.
Type 2: package contractor/assembler Product: roses and/or foliage/summer flowers (bouquets) Supplier tier: preferred supplier and may subcontract, or niche supplier	Type 2 firms tend to be medium-scale firms that have greater functional capabilities than Type 1 firms, both growing and packaging to specification. They may also have their own nurseries and use these to supply other firms. These firms tend to have set annual contracts with their buyers for specific volumes and prices. They may, however, also develop more informal linkages with Type 3 firms and supply them; similarly, they may in turn subcontract Type 1 firms to fulfil their buyers' requirements. For example, Dutch auction houses typically require a steady supply of high-volume and high-quality roses. In comparison, retailers may require specific products, such as bouquets, which require both roses and other summer flowers/foliage. Generally, Type 2 firms are responsible for the supply of the product up to its final destination. Because of the differences in end markets and product supplier, we distinguish between Type 2a firms, which are preferred suppliers to their buyers, and Type 2b firms, which tend to be niche suppliers to auction houses. Both types of firm may make use of an intermediary based in Kenya, but do not rely solely on them, as they have established their own direct links with end markets.
Type 3: package contractor/full package provider Product: roses Supplier tier: strategic supplier or niche supplier	Large multinational enterprises typically not only have their own nurseries integrated within their supply chains, but also tend to be vertically integrated, taking care of production, packaging and logistics. This means that the price invoiced or quoted by Type 3 firms includes insurance and all other charges up to the named port of destination, or named place in the country of destination such as a warehouse. A full package supplier carries out all steps involved in production. This includes the selection, purchasing and production of materials; the completion of production; and delivery of the finished product to the buyer: Dutch auction houses or supermarkets/retailers. Type 3 firms may subcontract Type 2 firms to fulfil their buyers' requirements.

Source: Field work and key informant interviews

Despite these apparent upgrading experiences within the cut-flower GVC in Kenya, outcomes in terms of an improvement in producers' capabilities are less obvious. Because of major data limitations, for example, it is not possible to confirm the anticipated dual process of social and economic upgrading. This includes higher wages and remuneration, which one would expect with increasing demand for skilled labour.

It is difficult to assess clearly how pay rates in cut-flower production compare with those in other sources of employment, although it is clear that collective bargaining agreements within the sector have increased rates. This means it is very difficult to confirm, as others such as Bernhardt and Milberg (2011) conclude, that social upgrading has occurred in tandem with economic upgrading.[9] Recently has a Vocational Training Act been implemented (Government of Republic of Kenya 2013); although around 30 vocational training institutes are operational, linkages with the private sector are still being developed (Lacave and Vullings 2014). Other policies have been introduced to facilitate the entry of small

and medium-sized enterprise (SME) exporters across the following sectors: horticultural, commercial crafts and textile/apparel. The Export Business Accelerator programme is an initiative to nurture SME exporters to become medium-sized or large exporting enterprises, including by providing tax incentives and business development services. It seems premature to assess their effectiveness, however, these initiatives do reflect the need for specific measures to promote SMEs effective engagement with GVCs, not just in high-value agriculture, but across other sectors.

10.6.2 Upgrading in Ethiopia

The available evidence suggests that Ethiopia has pursued foreign direct investment (FDI)-led GVC engagement, although some conditions on the investment have been put in place. Strong interactions exist between the CBI – the Dutch Centre for the Promotion of Imports from developing countries – and the Ethiopian Horticulture Producer Exporters Association (EHPEA). Although there are some apparent weaknesses in the strategy – for example, as discussed by Gebreeyesus and Iizuka (2010), so far there are no links with the Ethiopian Agricultural Research Organization (EARO) – a form of innovation system was established in Ethiopia when it engaged with the GVC, through close government co-operation with private investors.

It is not possible to clearly identify tiers of suppliers in Ethiopia (as it was in Kenya). However, it is clear that a few large producers exist in terms of land area (and one of these is a lead firm that relocated from Kenya, with multiple operations across the two countries). The available econometric evidence at the firm-level suggests that foreign ownership exerts a strong influence on supplying the direct sales (Keane 2016).

The limited development of more medium-sized firms may reflect the relatively short period during which the industry has been in operation. Although functional upgrading processes within the sector have been described as limited as well as challenging to identify, intersectoral upgrading processes, including movement into other forms of light manufacturing, deserve further attention. This includes in relation to the specific policy measures that may have made this route more amenable in Ethiopia.

10.7 Concluding remarks

This comparison of GVC engagement in the cut-flower GVC in Kenya and Ethiopia provides some evidence of a type of East African 'flying geese' in action. This is taking place as investors in Kenya begin activities in Ethiopia, which is a lower-cost producer. Ethiopia has been inserted into the cut-flower GVC through a strong FDI-led process, with a specific focus on the supply of cut flowers to Dutch auction houses. It has exhibited an impressive performance to date in relation to the volume of cut flowers exported. There is evidence of some functions, notably logistics, being handled by Kenyan firms.

The evolution of the cut-flower GVC suggests that some Kenyan lead firms have extended their range of services undertaken within the sector across countries, including Ethiopia. This is essentially a form of intra-sectoral upgrading, which is not currently conceptualised within the GVC governance structures identified by Gereffi *et al.* (2005). Intra-sectoral upgrading has occurred, even though functional upgrading in the conventional sense, into international services such as sales and marketing, has not been achieved.

Finally, while some upgrading processes have clearly occurred, their translation into greater value addition and capture deserves further attention. Moreover, further analysis is required to reveal the specific mechanisms which translate the tacit knowledge obtained from engagement with this GVC information

into knowledge stock, over time. These processes may become more apparent upon the complete implementation of Kenya's National Innovation System.

Notes

1 Economic Adviser, Commonwealth Secretariat. The views expressed in this chapter are the author's own and do not reflect those of the Secretariat.
2 This chapter is adapted from Keane (2016).
3 See Page (1994).
4 This section draws on Keane (2014).
5 These are Tesco (31 per cent), Asda (18 per cent, Sainsbury's (17 per cent) and Morrisons (12 per cent). See Wishaw (2013) for further discussion.
6 Because Asda has a commitment to be 10 per cent cheaper than its supermarket rivals, it is reputedly an aggressive price negotiator (Wishaw 2013).
7 Some UK retailers have begun to establish direct sale arms in supplier countries such as Kenya. This includes IPL, a subsidiary of Asda – the UK's second-largest retailer – whose parent company is Walmart. IPL was created as a direct sales arm of Asda in 2004 and in 2009 it subsequently became a wholly owned subsidiary.
8 Based on the firm-level data obtained by Ksoll *et al.* (2013).
9 Despite this, the direct benefits of formal employment opportunities are not to be downplayed. For workers on permanent contracts, they could include sickness pay, maternity leave and subsidised accommodation. It is also notable that entry-level positions such as harvesters and graders are filled by women as well as by men, either immediately after high school or after having obtained other relevant experience. The barriers to entry to such positions would therefore appear to be low.
10 The land rights system in Ethiopia is singled out as being a particularly problem and potentially stifling to employment growth in the sector, because families that are perceived not to be using land allocated to them may thus lose that land. This means that families with surplus labour in their households can be reluctant to take up formal employment opportunities elsewhere. Women are more likely to be able to take up the opportunities for formal employment in cut-flower firms for these reasons.

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Chapter 11

The Global Value Chain in Canned Tuna, the International Trade Regime and Implementation of Sustainable Development Goal 14

Liam Campling[1]

Abstract

This chapter explores the interaction between the international trade regime, the tuna global value chain (GVC) and the attainment of Sustainable Development Goal (SDG) 14 by small island developing states (SIDS). The nature of the tuna GVC, with retailers often playing suppliers off against each other, can lead to cost pressures being transferred to boat owners further down the chain. These trade challenges, which arise from the nature of organisation and co-ordination within the tuna GVC, are considered alongside other long-standing trade issues, including addressing harmful fishing subsidies (SDG 14.6), which create an even more uneven playing field for small states. In addition to addressing this aspect of unfair competition, while preserving aspects relating to special and differential treatment (S&DT), a number of areas where actions could be taken to increase the economic benefits derived from this sector are outlined.

11.1 The EU tuna trade regime and Commonwealth producer countries

Tariff regimes play a major role in shaping the structure of global tuna production in terms of both protecting domestic industry and offering a competitive advantage through preferential market access. Of course, trade policy alone cannot explain the geography of the tuna industry. The international division of labour in canned tuna production is also shaped by, among other factors, access to fish, geopolitics (e.g. historical spheres of influence of 'national' fleets), the law of the sea (especially the United Nations Convention on the Law of the Sea, UNCLOS) and the relationship between domestic political economy and international investment. Nonetheless, historically, tuna canneries in Africa, Latin America and the Pacific islands largely focus on the European Union (EU) market and do so as a direct result of tariff preferences, while canneries in South-East Asia supply the USA, Japan and the EU, but with minor or zero preferences (Campling 2016).

EU tariff escalation and trade preferences for canned tuna are based on a 24 per cent tariff peak (Table 11.1), which was established historically by France to protect its domestic processors and, from the 1950s onwards, French-owned canneries in West Africa that were set up to follow the fish after stocks were overfished in the Bay of Biscay (Campling 2012a). In short, the global expansion of the tuna fishing industry after the Second World War was driven by the search for new frontiers where stocks were in better health. The industrialisation of fishery production that has taken place since then emphasises the very high level of ambition of the target of Sustainable

Table 11.1 Simplified EU tariff schedules for tuna and tuna products (percentage *ad valorem*)

Product/Harmonised System code	Most-favoured nation (MFN)	GSP	EBA and GSP+	ACP/ EPAs
Fresh-chilled or frozen whole tuna/0302/03	0 (under 1604) 22 (other uses)	0 (under 1604) 18.5 (other uses)	0	0
Prepared or preserved tuna/1604	24	20.5	0	0
Prepared or preserved tuna (not in oil)/1604	24	20.5	0	0
Tuna loins to be canned/1604	24	20.5	0	0

Sources: Adapted from EU TARIC.

Development Goal (SDG) 14, which calls on the international community to 'conserve and sustainably use the oceans, seas and marine resources for sustainable development'.

Over time, French colonial trade policy was translated into EU policy, protecting tuna processors in Italy and Spain too (Campling 2015a). By the 2000s, Spain was the major beneficiary of this tariff peak; it accounted for 71 per cent of EU production in 2011 and since 2001 has been the world's second-largest producer of canned tuna, behind only Thailand (Globefish 2014). Given the highly competitive conditions in the Spanish retail market, this market share indicates the effectiveness of tariff protection, alongside various productivity-enhancing strategies of firms (Hamilton *et al.* 2011a).

The EU uses a classic policy of tariff escalation for tuna products, whereby greater levels of processing are accompanied by higher tariffs (Table 11.1). The EU market for canned tuna is the largest in the world and preferences available to developing countries can be grouped into two types. The first is the EU's Generalised System of Preferences (GSP), which consists of three pillars: (a) the 'standard' GSP scheme, which excludes only a handful of developing countries; (b) the Everything but Arms initiative (EBA), which provides quota-free, duty-free treatment for all goods (bar arms and munitions) from all countries categorised as least developed countries (LDCs); and (c) the GSP+, which is available to countries that are categorised by the EU as economically 'vulnerable' and have ratified a set of 27 international conventions on labour and human rights and on environmental and good governance.

The second type of preference originates in the ACP–EU Lomé Conventions (1976–99) and the Cotonou Agreement (2000–08), wherein the 77 countries of the Africa, Caribbean and Pacific group (ACP) received non-reciprocal duty-free access. Canned tuna is widely recognised as one of the very few success stories of industrial upgrading sparked by the Lomé Conventions. However, the EU argued that the non-reciprocal terms of the Cotonou Agreement made it World Trade Organization (WTO) incompatible and, in order to maintain access to the EU market, ACP countries had to sign subregional interim or comprehensive economic partnership agreements (EPAs) in 2007. These are free trade agreements and provide for reciprocity.

The EU policy of tariff escalation keeps raw material input costs low for EU-based processors and provides them with maximum flexibility for sourcing inputs at the lowest price on international markets. Importantly, processors based in GSP and EPA countries do not benefit from this flexibility, because the rules of origin (RoO) require that they can

process only fish caught by vessels owned by firms based in their country or region or in the EU.[2] This 'wholly obtained' approach is the basis of all EU preferential rules of origin for fishery products in international preferential trade arrangements. The European-owned distant water fleet (DWF) maintains that the RoO contributes to offsetting the fact that its cost structure is higher than those of less heavily regulated competitors, especially in the realm of 'social and environmental conditions' (FITAG–ANFACO 2011, 2). From the perspective of preference-receiving trading partners, such as the ACP group, EU fisheries RoO have long been perceived as a source of contention because of their restrictiveness (Commission for Africa 2005; Grilli 1993; Ravenhill 1985). Either way, there is little question that RoO ensure that the DWF are major beneficiaries of EU preference schemes, as the fleet has a captive market among those EPA and GSP+ producers that do not have a domestic fleet (Campling 2008).

11.2 Lead firms and market power in the global value chain in canned tuna[3]

The period since the 1980s has seen a rapid concentration in US and EU grocery retail markets and an associated rise of supermarket 'buying power' (Gibbon and Ponte 2005). Supermarkets' increased market share and sales density generate enhanced economies of scale, buying power and reduced unit costs relative to competitors, resulting in an oligopolistic value-chain structure with high barriers to entry in the retailing node of the chain (Burt and Sparks 2003). For example, the grocery retail sector in France, the UK and the USA is dominated by one lead firm and a handful of other key players in each country. This allows these firms' buyers of seafood products to exert considerable pressure upstream the commodity chain on price and other areas of competition, such as product and process standards. In turn, barriers to entry in the branded food market segment are normally high. For example, supermarkets in France, the UK and the USA generally limit shelf space to a category brand leader and second- and, sometimes, third-place competitors (or 'follower' brands), which have the economies of scale to absorb supermarket cost demands and leave space on the shelf for supermarket own brands (Campling 2012b).

The competitiveness challenge posed by supermarket power over suppliers is a common theme in global value-chain (GVC) analyses of the food industry. Market power enables supermarkets to sharpen competition among suppliers. For example, supermarkets play branded firms off against each other through the practice of 'slotting': a branded firm rents premium shelf space for a period, and even then may be squeezed for additional revenue within that period to avoid losing its retail 'real estate'. Added to this dynamic is the power to discontinue (or 'delist') a brand if it does not provide a sufficient return to the supermarket.

Supermarkets also use their market power to extract additional revenue from canned tuna suppliers, including payments for business allowances, advertising and brochures, and damaged goods. According to Miyake *et al.* (2010), these 'costs' can represent as much as 40 per cent of the retail price of the canned tuna.

The first- and second-tier supplier firms that supply supermarkets or branded firms with seafood products are themselves often dispersed across the globe and ownership is fragmented. This allows supermarkets and branded firms to play suppliers off against each other, exerting considerable price pressure in the competition to win supply contracts. This pressure is transmitted to boat owners, who respond by fishing harder and faster, attempting to secure strategic access (with potential rent gains for coastal states), squeezing crew and other points of labour, and avoiding regulation where possible, especially where it has a high

cost (e.g. flags of convenience). Pressure in the fishing node of seafood commodity chains is often heightened further by intense horizontal competition among boat owners in conditions of widely acknowledged overcapacity in fishing. In combination, these market and industry dynamics suggest the need for more effective monitoring, control and surveillance of fishery systems.

The UK market is of particular commercial importance to Commonwealth tuna processors. Concentration among supermarkets is high, at 80 per cent for the top five firms. Two brands control around 60 per cent of the UK canned tuna value market. This concentration may allow oligopolistic rent capture (see Campling 2012b).

Despite general agreement that supermarkets play a 'driving' role in agrifood chains, from the perspective of most developing Commonwealth countries they are the only 'lead firms' in the canned tuna industry. Branded firms and trading companies play a particularly prominent role and, unlike supermarkets, work directly with local labour, suppliers and governments. For example, the 'big three' tuna trading companies play a 'governing' role both in co-ordinating industrial tuna fisheries in the western and central Pacific Ocean and in supplying raw materials to tuna processors (Campling *et al.* 2007).

There is a heterogeneity of players in the branding and manufacturing node, each with their own logic and tactics for survival in the highly competitive tuna chain. Two main categories of firms are identified: (a) *branded manufacturers*, which are often integrated backwards into fishing, rely in large part on own manufacturing for supply and also source some of their product from non-branded manufacturers; and (b) *marketing companies*, which generally rely on non-branded manufacturers to supply their branded product and instead focus on marketing and total supply chain management/co-ordination, and derive profits primarily from brand rent. Many developing Commonwealth countries are currently located at the bottom of a hierarchy in the international division of labour within canned tuna production.

11.3 Commonwealth government responses to canned tuna preference erosion: leveraging fishery access for development gains

In view of the nature of their insertion into the tuna value chain, with limited actual or potential influence over changes to the international trade regime, as well as competition among multinational firms in the canned tuna chain, there are concerns over the ability to effectively implement the SDGs, in particular SDG14, which states: 'By 2030, increase the economic benefits to Small Island developing States (SIDS) and least developed countries from the sustainable use of marine resources.' This concern is heightened by the extent of direct and indirect preference erosion for fish products.

A common strategy for SIDS suffering from preference erosion is for them to diversify into 'niche' products and/or alternative markets. But it is far less common for such proposals to be thought through in relation to the evidence. A recent study by Campling (2015b) of alternative markets for canned tuna and tuna loins for Pacific SIDS found very few commercially serious options. Instead, the competitive advantage of existing EU and US tariff preferences was found to be a crucial pillar in the survival of these processors under current world market conditions.

A major disadvantage for Pacific island tuna processors is very high sea-freight costs relative to competitors, particularly South-East Asian processors. Comparative freight

rates for 20-foot dry containers (finished goods) are presented in Table 11.2. The costs of exporting to a number of alternative markets from the two current locations of canned tuna production in the Pacific islands – Papua New Guinea and Solomon Islands – are compared with the costs of shipping from clusters of tuna processing in South-East Asia and Ecuador. It is apparent that the cost of shipping finished product to markets in Japan, Latin America, the Middle East, Russia and South Africa is prohibitively more expensive from these two SIDS. Shipping even to Australia, which neighbours Papua New Guinea and Solomon Islands, is much cheaper from South-East Asia. This is part of a long-standing problem facing SIDS: their relative and crucially *permanent* physical isolation from principal markets and concomitant extreme economic vulnerabilities (Hache 1998; Campling 2006). This is in comparison with a location such as Thailand, which benefits from being between the Indian and Pacific oceans, well positioned for raw material supply and as a hub on the East–West sea-freight 'superhighway'.[4]

There is a substantial body of work on the role of high trade costs (particularly of ocean-going sea freight) as a competitive disadvantage to many SIDS because they incur structural (spatially induced) costs on trade (UNCTAD 1996, 1997, 2014a). As UNCTAD put it in a chapter of *Review of Maritime Transport 2014* dedicated to the analysis of SIDS: 'Transport costs of SIDS trade are comparatively high because small volumes of trade have to travel long and indirect routes to reach distant markets' (UNCTAD 2014b, p. 105). Of course, this depends entirely upon location. Some islands are in a better relative position than others in terms of their

Table 11.2 Freight cost comparison for 20-foot dry containers of canned tuna (US$/container)

Destination	Supplier					
	Lae, Papua New Guinea	Noro, Solomon Is.	Bangkok, Thailand	Jakarta, Indonesia	Gen. Santos, Philippines	Guayaquil, Ecuador
Melbourne, Australia	1,100	1,100	650	550	650	2,200
Cape Town, South Africa	2,890	2,890	875	800	1,150	2,500
Tokyo, Japan	1,700	2,000	350	350	750	1,000
Shanghai, China	1,300	1,600	330	400	250	1,000
St Petersburg, Russia	3,550	3,565	900	900	1,850	1,200
Port Said, Egypt	2,505	2,505	1,440	1,450	1,700	1,200
Riyadh, Saudi Arabia	2,775	2,775	980	1,150	1,350	2,200
Buenaventura, Colombia	2,980	4,480	1,525	1,525	1,600	1,125
Santos, Brazil	2,690	4,190	720	720	800	1,675
Buenos Aires, Argentina	No service	No service	700	600	1,050	1,780
Callao, Peru	2,950	4,450	1,500	1,500	1,500	n/a
San Antonio, Chile	2,950	4,450	1,500	1,500	1,500	n/a

n/a, not available
Source: Major shipping lines and freight forwarders – various, April 2015.

geographical proximity to major markets (e.g. the Caribbean's geographical relation to North America or Singapore's strategic positioning in Asia compared with Atlantic, Indian and Pacific ocean SIDS).[5]

Tuna processing is a labour-intensive activity providing much-needed employment in relatively undiversified low-income Commonwealth economies (e.g. Barclay 2010; Havice and Campling 2013), albeit not without some unintended socioeconomic effects. In the context of the structural costs facing SIDS in terms of sea freight, we focus on two leverage points that allow Commonwealth governments to directly and indirectly influence local development gains from the tuna industry: mediating access to the fishery resource and enhancing access to EU markets. Crucially, the leveraging of resource access is an agenda advanced by coastal developing states independently of major donors and other development agencies.

The principal leverage of governments of low-income coastal Commonwealth countries is their sovereign rights over access to marine resources in their waters. Exclusive economic zones (EEZs) in particular constitute large expanses of state property that Commonwealth countries use to appropriate ground rent from industrial tuna fleets (Campling and Havice 2014). For coastal Commonwealth countries, the most commercially important fish enclosed in EEZs are tuna and tuna-like species, alongside hake and others in Namibia and small pelagics in West Africa.

Two types of resource access leverage strategy are addressed here. 'First-generation' access entails a representative of a DWF[6] agreeing to pay a coastal state government a fee for the right to fish. 'Second-generation' access agreements entail a foreign enterprise gaining the right to a fish in an EEZ in return for registering its fishing fleet domestically and/or making a local investment in onshore processing. The rest of this section examines two Commonwealth state examples of each 'generation' of access agreement.

Despite its very small size, Seychelles is widely recognised as having effectively negotiated first-generation access agreements with the EU. Seychelles occupies a strategic place in the Western Indian Ocean tuna fishery, because tuna regularly migrate through its EEZ and Port Victoria is at the centre of the regional purse seine fishery, making it the most economically logical base for the EU DWF (Campling 2012a). The annual EU payment *alone* to Seychelles under the 2014–19 fisheries partnership agreement (FPA) is €5,350,000 (boat owners pay various additional fees) (EU–Seychelles 2014).

However, while these first-generation access fees are important contributions to government revenue, the domestic capture and creation of value from the application of taxes on and provision of goods and services to the EU DWF when it is in Port Victoria are far more significant (Campling 2012b). Nonetheless, it is instructive to draw out a number of gains secured to Seychelles in its FPA negotiations (EU–Seychelles 2014):

- The FPA includes a provision for employing two Seychellois crew members. If they do not, boat owners pay a daily fee of €20 for two crew members while in Seychelles waters. It is thought that it is the only FPA to contain such a clause.
- The International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work shall apply to crew working on board.
- Crew employment contracts shall guarantee social security cover applicable to them, including life insurance, sickness and accident insurance, and pension benefits.
- Basic ILO wage conditions shall be met, including bonuses being in addition to wages.

This last clause was an important addition in the 2013 agreement because, according to author interviews in Seychelles in January 2014, the EU DWF reportedly had previously underpaid Seychellois crew members.

The most important multilateral first-generation access arrangement is the Vessel Days Scheme (VDS) implemented by a group of eight Pacific islands known as the Parties to the Nauru Agreement (PNA), which includes four Commonwealth countries: Fiji Islands, Kiribati, Papua New Guinea and Solomon Islands.[7] The VDS was rolled out from 2008 and acts as a cartel in terms of access to over 50 per cent of the world's canning-grade tuna (Clark and Clark 2014). This high-profile success story of South–South co-operation saw the Pacific island countries collaborate in their relations with foreign industrial purse seine fisheries to maximise rent generation through the auctioning of fishing vessel days (Havice 2013). Since 2010, when the co-ordination of the VDS shifted to the PNA Office in the Marshall Islands, the increase in revenue captured from the fishery had increased five-fold and an independent review found that 'two of the largest tuna stocks; [sic] skipjack and yellowfin, have been maintained in a very healthy state' (Hagrannsoknir 2014, p. 11). There are, however, some concerns that the VDS has not (yet) successfully limited overcapacity in industrial fisheries in the region (Hanich *et al.* 2010). It has also come under considerable fire from the Spanish tuna industry, including through far-ranging fishery-related demands made by the EU in EPA negotiations (Batty 2016).

A prominent example of second-generation access among low-income Commonwealth countries is the 'Namibianisation' policy, which attempted to overcome the legacy of racialised ownership of industry from prior South African rule. The Namibian case is concerned mainly with processed products of hake and monkfish, and canned pilchards, along with small volumes of tuna (FAO 2007). These are predominantly exported duty free to the EU under ACP preferences, a situation that was set to continue with the signing of an EPA in June 2016. The policy of localising ownership of fishing enterprises through discounted resource access fees doubled the employment of Namibians through the 1990s (Armstrong *et al.* 2004). It also means boats are compliant with EU RoO. At the same time, the use of a complicated web of preferential shares, proxy ownership and cross-ownership means that de facto Namibian control over fishing industries remains low, with foreign ownership remaining dominant, consolidated into a handful of large conglomerations (Manning 2000; Melber 2003).

In more recent years, other countries have tried to follow the strategy of fishery domestication, most prominently Papua New Guinea. Because of a combination of geographical isolation and other costs of doing business, processed tuna exports from PNG are dependent on duty-free access to the EU market. To further attract onshore processing investment in PNG, the government signed the Pacific Interim-EPA and deployed 'second-generation' fishery access arrangements. If they commit to onshore investment, foreign firms are allocated considerably more fishing licences than necessary to supply that plant, offering long-term strategic resource access (Hamilton *et al.* 2011b). There is, however, some debate around the environmental sustainability of this strategy (European Parliament 2012) and it has the potential to undermine the success of the VDS in terms of facilitating vessel overcapacity and reducing the price of a fishing day.[8]

11.4 Implications for implementation of Sustainable Development Goal 14

Some of the SDG14 targets are largely conservation measures (e.g. 'effectively

regulate harvesting', 'implement science-based management plans'). However, others have direct relevance to trade policy-makers, such as 'address harmful fishing subsidies'. Of course, there should be no confusion about the positive linkages between effective fishery management and potential sustainable development outcomes. Even the most carefully considered industrial and trade policies will be immediately undermined should the natural resource on which they are based be eroded. SDG14 provides considerable guidance in this regard, although, arguably, the targets are not new.

A plethora of overlapping policy initiatives govern fishery conservation and management at many scales, from national management plans to regional fishery management organisations, and from international agreements established under the United Nations to private sector sustainable procurement policies and third-party eco-labels. In addition, some of the SDG14 targets are – quite rightly – system-wide issues that fall outside narrow fishery-related concerns (e.g. acidification and marine pollution).

There are two SDG14 targets that carry obvious trade-related policy implications in the context of this chapter: prohibiting fishery subsidies that contribute to overcapacity and overfishing, and the commitment to increase the economic benefits to SIDS and LDCs. Indicators to monitor the fishery subsidies target by 2020 should include multilateral rules that limit the application of existing subsidies that contribute to overfishing and overcapacity, but that include effective special and differential treatment (S&DT) provisions. Unless decisive action is taken, it is unlikely that this target will be met. The political-economic interests and geopolitics involved in the fishery subsidy debates at the WTO at the height of their activity (almost monthly multilateral meetings between 2007 and 2010) were not resolved (Campling and Havice 2013). Major efforts will be required in order to ensure that the political and technical problems encountered during this period (e.g. how to agree to S&DT that did not give the largest developing-country subsidisers carte blanche, or how to define 'artisanal fishing') can be overcome in the current, perhaps even more tumultuous, global political economy.

While we saw earlier that the collapse of the Doha Round of trade negotiations at the multilateral level gave preference-dependent fish processors a moment of respite from multilateral preference erosion, the new bilateralism and in particular the rise of macroregional free trade agreements (FTAs) such as the Trans-Pacific Partnership (TPP) suggests a new kind of threat. As Goel *et al.* (2015, p. 6) point out, for small vulnerable economies, their 'numbers and the "consensus rule" of the WTO provide proponents with negotiating leverage beyond their physical of political-economic size'. However, TPP rules were negotiated by states that do not have the same interests as most small developing economies (TPP 2016).[9]

For example, a key target of SDG14 is to 'prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing' by 2020, but crucially 'recognising that appropriate and effective' S&DT 'should be an integral part'. However, the SDG refers only to fishery subsidy negotiations at the WTO, so it does not commit bilateral agreements on disciplines to fully consider S&DT. This much is apparent from the text of the TPP, which does not contain S&DT provisions on fishery subsidy disciplines (except for a minor two-year extension to the transition period allocated to Vietnam). This is tempered by the fact that the ambition of the TPP rules on fishery subsidies is very low compared with the height of the discussions at the WTO (Campling and Havice 2016). Even if small island economies are granted accession, the example of the TPP raises the spectre of their being unable to influence the changing context of international trade law as established by new norms produced in macroregional FTAs.

Notes

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2 EU rules of origin for fish are based upon 'wholly obtained' criteria. Under (interim) EPAs and the EU's current GSP regime, the wholly obtained criteria for fish and fish products are as follows: (1) All fish is automatically wholly obtained when caught inland and within the territorial seas (12 miles from the coast) of the signatories. The location determines origination. This can also include fish caught in a country's archipelagic waters, where the proper international legal procedures have been followed through the United Nations. (2) If caught outside these locations, origination is determined by the 'nationality' of the boat (i.e. when caught in exclusive economic zones and in the high seas). Nationality is determined by the boat (a) being flagged and registered by one of the parties to the agreement, and (b) being at least 50 per cent owned either by nationals of parties to the agreement or by a company based in one of the parties to the agreement.
3 This section draws on Havice and Campling (forthcoming).
4 Multiple interviews with European, Japanese and Thai tuna industry representatives, 2006 and 2015.
5 However, the actually existing peripherality of Indian and Pacific ocean SIDS does not reduce the vulnerability of Caribbean SIDS, because feeder shipping services are precarious; a foreign liner may decide to bypass any port at any time.
6 This could be an individual enterprise, an industry association or a government or supranational body (e.g. the EU).
7 First enacted in 1982, the Nauru Agreement is a subregional arrangement that sets terms and conditions for the licensing of tuna purse seine fishing.
8 Personal communications, Pacific island fishery experts, July 2016.
9 The 12 countries that signed the TPP are Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the USA and Vietnam. References to the TPP legal text use the version published online by the Office of the United States Trade Representative (TPP 2016).

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Chapter 12

Clothing Value Chains and Sub-Saharan Africa: Global Exports, Regional Dynamics and Industrial Development Outcomes

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Abstract[4]

This rise of textiles and clothing global value chains (GVCs) in sub-Saharan Africa (SSA) is generally perceived as a successful process of beginning the industrial development process through leveraging preferential market access (PMA) and attracting foreign direct investment (FDI). However, simply using an aggregated analysis of SSA clothing exports masks some crucial differences: end-market shifts, the emergence of regional value chains (RVCs), the variety of firm types inserted in different value-chain channels, the political-economy dynamics driving this, and related sustainability and development implications. Within this chapter, different types of firms in the textiles and clothing industry – transnational, regional, diaspora and indigenous – are identified in SSA and their implications for upgrading are described. Transnational investors, as opposed to regional or diaspora investors, for example, were initially attracted to SSA because of lower costs, quota restrictions and preferential access to the US market resulting from the Africa Growth and Opportunity Act (AGOA). Because of changes in the trade preference regimes, as well as other regional and global dynamics, within this chapter four key policy areas are identified for governments to focus their efforts so that they can continue to leverage the income and employment opportunities arising from GVC participation: increasing productivity through investing in skills, fostering local entrepreneurship, diversifying markets and, finally, facilitating trade, including through seeking more favourable market accesses as well as developing business networks.

12.1 Background

Export diversification into higher value-added products remains a major development objective for low-income countries (LICs). The clothing sector has traditionally played a central role in this process. In several sub-Saharan African (SSA) countries, the export-oriented clothing sector has developed since the turn of the millennium. This rise is generally perceived as a successful process, in terms of beginning the industrial development process through leveraging preferential market access (PMA) and attracting foreign direct investment (FDI). However, simply using an aggregated analysis of SSA clothing exports masks some crucial differences: end-market shifts, the emergence of regional value chains (RVCs), the variety of firm types inserted in different value-chain channels, the political-economy dynamics driving this, and related sustainability and development implications. These differentiating features have important policy implications. To illuminate these points, we

assess the export-oriented clothing industry in the five main SSA clothing-exporter countries: Madagascar, Mauritius, Kenya, Lesotho and Swaziland.

12.2 Global value chains and the clothing industry

The clothing industry is organised in buyer-driven GVCs, where production is carried out in decentralised, globally dispersed interfirm networks. Most clothing production remains labour intensive, has low start-up and fixed costs, and requires simple technology, encouraging the move to low-cost developing-country locations. The sector has absorbed large numbers of unskilled (mostly female) workers, providing incomes and opportunities to upgrade into higher value-added activities. This ease of entry makes it also relatively 'footloose', as production can quickly adjust to changing market conditions. Textile production – the main input to clothing – is more capital and scale intensive, demands higher worker skills and has to a larger extent remained in higher- and middle-income countries.

In 2013, global clothing exports accounted for US$378 billion, making clothing one of the most traded manufactured products. Developing-country shares, mostly Asian, increased from 25 per cent (mid-1960s) to 37 per cent (late-1980s) and to above 80 per cent in 2013. Since 2000, LICs from other regions have developed export-oriented clothing sectors. In many SSA countries, the industry is prioritised for export and employment generation and industrial development. In some countries, the share of clothing exports in manufacturing exports is considerably high: Madagascar (76.3 %), Mauritius (54.4 %), Lesotho (48.8 %), Ethiopia (21.2 %), Kenya (20.2 %) and Swaziland (11.5 %).

Clothing GVCs are co-ordinated by lead firms controlling activities that add 'value' to products (e.g. design, branding), outsourcing the manufacturing process to a global network of suppliers. Lead firms control manufacturers through detailed product and production specifications indicated in their global sourcing policies, which shape production and trade patterns. Sourcing decisions are motivated by labour-cost differentials, quality and reliability, but other criteria also increasingly shape sourcing decisions:

- *Lead times and flexibility:* Lean retailing and quick-response production highlight 'time' in sourcing decisions. Buyers defray risks associated with supplying clothing to fast-changing, volatile and uncertain consumer markets by replenishing shelf items quickly and minimising inventories. Lead times have declined from months to several weeks, requiring more efficient and flexible supply chains, production processes and work arrangements.
- *Non-manufacturing capabilities:* Buyers concentrate on their core competencies (branding and design) to reduce costs and increase flexibility. They desire suppliers to be capable of input sourcing, product development, inventory management, stock holding, logistics and financing, increasing the functions demanded from suppliers.
- *Consolidation of supply base:* Buyers focus on the most competitive core suppliers offering consistent quality, reliable delivery, large-scale and flexible production, competitive prices, and broader non-manufacturing capabilities, to ensure cost-effective supply-chain management and reduce supply-chain complexity. This leads to a reduction in suppliers, which benefits larger and more capable firms rather than smaller, marginal ones, and increases entry barriers.
- *Compliance:* Labour and environmental standards compliance has become prominent in buyers' sourcing decisions, related to civil society pressures.

Faced with increasing buyer requirements and demands for broader non-manufacturing capabilities, more capable suppliers positioned themselves as intermediaries or transnational producers co-ordinating global supplier networks. Transnationals are an important source of FDI in LICs' clothing-export sectors, providing GVC entry for marginal, new suppliers in spite of buyers' increasing requirements. Entry barriers are lower, but upgrading opportunities are limited by intermediary control over key decisions and functions. With intense global competition, upgrading strategies are extremely important for suppliers to sustain and improve their positions in GVCs. There are several strategies to upgrade:

- *process upgrading:* improving technology or production systems to gain efficiency and flexibility;
- *product upgrading:* shifting to more sophisticated and complex products;
- *functional upgrading:* increasing the range of functions or changing the mix of activities to higher-value tasks such as from cut, make and trim (CMT) to input sourcing, design, distribution and logistics;
- *supply-chain upgrading:* establishing backward supply-chain linkages, particularly to textiles;
- *end-market upgrading:* diversifying to new buyers, geographical markets or products.

Regional markets dominated by RVCs are often less demanding, allowing firms to hone productive capabilities and operational skills, so firms can upgrade stepwise and later move into global exports.

12.3 Regulatory context of clothing trade

The Multi Fibre Arrangement (MFA) had imposed textile and clothing volume quotas on imports into industrialised-country markets. When clothing manufacturers in Japan, South Korea, Hong Kong, Taiwan and later China reached quota limits, they set up plants or sourced from firms in countries with underutilised quotas. The MFA was superseded by the WTO Agreement on Textiles and Clothing in 1995 and these quota restrictions were phased out in 2005. From then onwards, buyers could source freely (apart from temporary restrictions of Chinese imports until the end of 2008), increasing global consolidation and adversely affecting LIC clothing exporters.

Tariffs are, however, still central in the global clothing trade. Most-favoured nation (MFN) tariffs on clothing imports average around 11 per cent for the EU and the USA, with variations for product categories; US tariffs vary up to 32 per cent. Hence, PMA remains important, encompassing the following:

- Regional, transregional and bilateral trade agreements with the EU, the USA, Japan and various developing countries. However, clothing and textile products are often excluded.
- The Generalised System of Preferences (GSP): 27 developed countries providing tariff preferences to more than 100 beneficiary countries. Within the GSP, some countries have offered clothing PMA for least developed countries (LDCs), for example the EU's Everything but Arms (EBA). Other agreements include the EU's economic partnership agreements (EPAs) and the USA's Africa Growth and Opportunity Act (AGOA).

PMA is governed by rules of origin (RoO) that block attempts to circumvent external tariffs. They are usually stipulated as certain production steps taking place in the beneficiary country: single transformation (sewing), double transformation (adding knitting or weaving) and triple transformation (adding

spinning). Restrictive RoO can also support backward and regional integration. Single transformation rules now apply to EBA, interim EPAs and AGOA. The third country fabric (TCF) derogation within AGOA allows African less-developed countries (excluding South Africa) duty-free access for clothing made from fabrics originating anywhere.

Trade preferences are eroding, because tariffs are generally decreasing and more countries are gaining increasing access to tariff preferences to the USA and EU. This will undermine SSA exporters' privileged access to the core US and EU markets.

PMA within SSA has accelerated, particularly through the Southern African Customs Union (SACU), Southern African Development Cooperation (SADC), Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC) and Economic Community of West African States (ECOWAS). These efforts will be accelerated by negotiations on a Continental Free Trade Area (CFTA) including 54 African states.

12.4 Global trade patterns

The MFA phase out, together with shifts in buyers' sourcing policies, have had crucial implications on clothing-export patterns. China is the largest exporter of clothing, increasing its world export share from 28 per cent in 2004 to 40 per cent in 2013. Within the top 15 exporters, low-cost Asian countries (China, Bangladesh, India, Vietnam, Indonesia and Cambodia) have increased their export shares since 2004, while most other clothing-producing countries have lost global market share.

The EU-15 and the USA accounted for 62 per cent of global clothing imports in 2013. However, since 2008, imports have declined or stagnated. Imports into emerging-country markets (Russia, China, South Korea, Turkey, Saudi Arabia and Mexico) have experienced the fastest growth. Using data on global clothing retail sales, the Asia Pacific region accounted for 32 per cent of the retail market in 2012 (followed by Western Europe and North America, 25 per cent and 23 per cent respectively). The fastest growing retail markets since 2005 have been Asia Pacific and Latin America, followed by Eastern Europe (7%), the Middle East and North Africa (6%) and Australasia (5%).

12.5 The export-oriented clothing industry in SSA

AGOA increased SSA clothing exports to US$3.2 billion in 2004 and dramatically changed their composition. Exports to the EU stagnated while those to the USA more than doubled, peaking at $1.9 billion in 2004. The growth of clothing exports in some countries was spectacular. Lesotho, Swaziland, Madagascar, Kenya and Mauritius became the largest SSA exporters of clothing, accounting together for around 80 per cent of SSA's total clothing exports in 2004. By 2004, more than 90 per cent of Kenya's, Lesotho's and Swaziland's clothing exports went to the USA and Madagascar's major exports shifted from the EU to the USA.

After the MFA phase out, and accelerated by the global economic crisis, the SSA clothing-export industry declined drastically in terms of production, exports, employment and firm numbers: SSA clothing exports fell by 22 per cent from 2004 to 2009. However, exports increased again in 2011. For Lesotho and Swaziland, this increase is largely attributed to a shift in exports to South Africa. Kenyan exports continued to be exclusively concentrated on the USA. Madagascar's clothing exports remained relatively constant as exports shifted from the USA to the EU. However, the loss of AGOA status following the 2009 coup reduced US exports substantially. In Mauritius, US and EU

exports declined, but the new regional market in South Africa partly compensated for these losses.

The most important end-market shift has been the increased importance of the South African market. The proportion of exports to South Africa in total SSA clothing exports increased from less than 1 per cent in 2004 to 15 per cent in 2013. In the South African market, regional clothing imports from SSA jumped 15-fold from 5 per cent ($27 million) to 25 per cent ($437 million) in the same period. Clothing exports from Mauritius and Madagascar to South Africa accounted for respectively 17 per cent and 15 per cent of their total clothing exports in 2013. Between 2006 and 2013, clothing exports to South Africa from Lesotho increased 36-fold in rand terms, accounting for 18 per cent of Lesotho's total clothing exports, while exports from Swaziland increased 89-fold, accounting for 68 per cent of Swaziland's total clothing exports. Kenya does not export to South Africa, as it is not able to access any duty-free advantage. However, there is evidence of rising regional exports to the EAC market.

12.6 Different types of firms and upgrading implications

Four types of export-oriented firms are identifiable in SSA clothing-exporter countries: transnational, regional, diaspora and indigenous. The main SSA clothing-exporter countries, Lesotho, Swaziland, Madagascar, Mauritius and Kenya, demonstrate differences in the mix of these firm ownership types, but foreign-owned firms play a dominant role in all of them. The firm types manifest different characteristics in various levels of local or regional embeddedness. These have differential effects on value-chain dynamics, affecting upgrading trajectories, skills development and industry sustainability.

Transnational investors are primarily based in East Asia (Hong Kong, Taiwan, Korea), but more recently also in China, India and the Middle East. Faced with quota restrictions, rising labour costs and high demands from global buyers, they developed triangular manufacturing networks with buyers in industrialised countries, headquarters in East Asia and supplier firms in LICs. Their primary investment drivers in SSA were (labour) costs, MFA quota hopping, AGOA duty-free access, flexible RoO and special FDI incentives. In SSA, these transnationals are mostly Taiwanese owned in Lesotho (11) and Swaziland (4). In Kenya, the 12 transnationals in the EPZs are mostly from Taiwan, Hong Kong, China and India. In Madagascar, Asian firms mostly left in 2009/10, when the USA suspended Madagascar's AGOA membership. Nearly all transnational investors left Mauritius when the MFA ended.

They follow a global strategy: export to the USA involving long-run production of a narrow range of basic products made in large plants in several countries, with highly inflexible operating environments, specialising in a narrow range of functional activities. Critical decision-making power and higher-value functions reside in head offices: input sourcing (often from their own textile mills in Asia), product development, design, logistics, merchandising, marketing and direct relationships with buyers. Their SSA production plants are generally restricted to CMT activities. Training is limited to basic production, coupled with a reliance on expatriates for technical and management skills.

Around 97 per cent of total sales output of Taiwanese firms in Lesotho and Swaziland goes to the USA through AGOA. Asian firms in Madagascar export 88 per cent of their production to the USA. In Kenya, it is 100 per cent. The product range is narrow and largely undifferentiated. The competitive drivers are high volumes of relatively simple products, cost and line efficiency, combined with AGOA

duty advantage. The EU and South African orders are generally below their cost threshold. However, these firms are not interested in investigating new end markets, and because marketing decisions are made in Asia this makes establishing relationships with EU or South African buyers difficult.

Regional investors have head offices in their home countries, which are responsible for higher-value functions and organise production networks and sourcing focused on a specific geographical region. Their investments are based on geographical and cultural proximity, allowing greater interaction and a more flexible division of labour. The primary drivers for regional investors in SSA were lower labour costs, FDI incentives, preferential market access and geographical proximity. These investors are regionally embedded, with company headquarters located in South Africa or Mauritius, where most decision-making, input sourcing, design, product development, merchandising, marketing and direct contact with buyers occur. Although their plants supply largely on a CMT basis, regional proximity has led to a more fluid division of labour and functions with head offices, particularly in production and design-related activities. Regional investors also employ expatriates from their home countries and Asia for supervisory, technical and management positions. However, there are generally more locals in supervisory and middle-management positions and, concomitant with more complex products, there is more in-depth training than in transnational producers.

In Madagascar, regional investors from Mauritius had 14 plants in 2012, driven by large clothing groups moving into higher-value products and relocating production of basic products. Mauritian-owned firms in Madagascar export to the EU and increasingly South Africa, on average 75 per cent and 25 per cent respectively. Historically, their Madagascar plants focused on longer-run, basic production for the US market but, because of Madagascar's loss of AGOA, plants in Madagascar increased production for Europe and South Africa. This shift in end markets led to shorter-run and more complex products. South African investors in Lesotho (12) and Swaziland (3) sought to escape high domestic wages and inflexible labour market conditions. The South African-owned firms are tightly linked to their domestic retailers, which take 90 per cent of their output. Most of them focus on shorter runs and slightly more complicated products, with some higher-fashion content.

Diaspora investors are locally embedded immigrant families with significant histories in the host country. They are mostly owner-managed single-operation firms, not part of tightly organised production networks, nor operating with regional or global reach. They draw on their diaspora status to link to global networks for access to input sourcing, buyers and end markets. The most successful example is Madagascar, with 21 firms established by largely French immigrants. Malagasy residence and French market connections provide them with a unique defining characteristic: embeddedness through local decision-making, but also using close cultural relationships to access European networks, buyers and markets. This type is also found in Kenya, with five Indian diaspora investors using their international networks for input sourcing. Lesotho and Swaziland have five and six Asian investors respectively, operating sole-owner, more locally embedded firms, but without similar cultural linkages to those in Madagascar, making them dependant on foreign networks for linkages to input suppliers, buying offices and agents.

Key decisions (merchandising, marketing and contact with buyers or agents) are generally located locally, providing flexibility to react to constraints and opportunities. There are, however, differences between the diaspora-owned firms in Madagascar and those in

Kenya, Lesotho and Swaziland. The former's close cultural linkages to European markets and buyers enable upgrading through supplying on a full-package basis, with some design and product development capabilities. Their strategy is to go upmarket, focus on higher-quality, more complex middle- to high-fashion products involving smaller batches, requiring a flexible firm set-up and building on their long-term buyer relationships. In Lesotho, Swaziland and Kenya, the functional upgrading potential of these diaspora firms is limited to supplying basic products on a CMT basis, as they lack close cultural relationships with buyers in their end markets.

Indigenous investors with local citizenship are typically owner-managed single-operation firms with local decision-making, driven by similar investor motivations to those of diaspora firms. However, except for Mauritius, they generally do not share the cultural heritage of buyers, input suppliers or agents and are, hence, unable to use this to facilitate their value-chain linkages. Currently around 120 firms (99 per cent indigenous) in Mauritius export clothing. They vary in size, corporate composition, and regional and global reach, exporting to the EU, US and South African markets. Madagascar has 12 indigenous-owned firms, but these are largely small and do subcontracting work for large export firms. Kenya, Lesotho and Swaziland have no significant indigenous-owned clothing exporters.

Indigenous clothing firms differ significantly across countries. The local embeddedness of the Mauritian clothing industry, coupled with significant government support, has facilitated backward integration into fabric and yarn production, functional upgrading to full package and design, and higher value-added products. Most indigenous firms have moved away from basic clothing products, upgrading to higher-quality and semi-fashion goods with short runs and lead times, and increasing product ranges and styles; some have their own brands, largely for the domestic market. In Madagascar, indigenous firms are struggling and declining, without government support and unable to consolidate buyer linkages, and are driven into contract and subcontracting work. The one export-oriented indigenous firm in Kenya also primarily works as a subcontractor for foreign-owned firms in EPZs.

12.7 Main development challenges

The future growth of transnational producers is severely limited, and dependent on duty-free AGOA access. However, workers will remain as semiskilled machinists, management localisation will continue to be limited and competitiveness will still be unrelated to upgrading. Their focus will remain on CMT operations and reducing costs. Their major policy interest is maintaining AGOA and TCF.

Regional and diaspora firms are more sustainable. The EU and South African markets favour more flexible firms with shorter lead times. These firms wish to upgrade and employ local management staff. Regional firms are interested in shifting higher value-added functions to Madagascar, Lesotho and Swaziland. However, they are constrained by local human resource capacity. The Lesotho and Swaziland firms have a proximity market advantage in South Africa, but they also face serious competitive challenges from Mauritian and Malagasy producers.

Finally, indigenous firms in Madagascar and Kenya face major challenges. Apart from limited skills and capacity problems, their primary challenge is sustained value-chain access to export markets and buyers. General challenges for all SSA main clothing-exporter countries are preference erosion, end-market concentration, lack of backward linkages, skill shortages and, finally, infrastructure and trade

facilitation deficiencies. Each of these issues is summarised in the following list:

- *Preference erosion:* SSA countries enjoy very favourable market access to the USA and EU. Thanks to single-transformation RoO and the important share of (often imported) inputs in total costs, the degree of effective subsidy offered is substantially higher than the nominal tariff rate. A central challenge for SSA's clothing sector is preference erosion through other trade agreements providing duty-free clothing access for all LDCs.
- *End-market concentration:* A major challenge is diversification in markets and products. In the first half of the 2000s, the US and EU-15 markets accounted for almost 90 per cent of clothing exports from SSA. By 2013, clothing export markets were more spread, with 33 per cent going to the USA, 31 per cent to the EU-15, and 15 per cent to South Africa. Hence, there has been improvement but concentration is still high, with much more potential to diversify to other high-potential export markets, including emerging, regional and local markets.
- *Lack of backward linkages:* SSA is a net exporter of clothing, but a net importer of textiles. Textile production is more capital, scale, skills and infrastructure intensive. Major challenges are hence: the insecurities associated with the sustainability of the clothing industry; technical skills; inconsistent electricity; water supply and treatment; solid-waste processing; and high capital costs. However, backward integration will be central to increase lead time competitiveness, production flexibility, transport and customs clearance, as well as domestic value added and local linkages.
- *Skill shortages:* Production efficiency and productivity in SSA clothing plants are low compared with competitors. Factory productivity depends on labour costs, production organisation, equipment and technology used, and workers' and management skills. Skill shortages are related to limited firm-level and industry-wide training facilities. With the exception of Mauritius (and South Africa), very little formal training of skilled personnel, technicians, supervisors and managers occurs.
- *Infrastructure and trade facilitation deficiencies:* An important challenge is the inefficiency of infrastructure and trade facilitation – roads, rails and ports; water, electricity and communication; customs clearance; logistics; and access to finance. The challenge of financing inputs and production is exacerbated by the purchasing practices of buyers, which generally demand payment periods of 60–90 days, increasing the amount of working capital that full-package production (in contrast to CMT) requires.

12.8 Policy recommendations

Most SSA government policies have focused on FDI incentives, and not on furthering upgrading, skills, local involvement, value added and linkages to the local and regional economy. Industries and governments need to improve their productive and institutional capacities, but they also need to make sure that they 'capture the gains' of integration into and upgrading in clothing value chains in terms of increased and sustained incomes, local and regional linkages, capability development and broader industrial development. Unless this is done, the benefits to the clothing industry will be limited to direct employment creation. With this perspective in mind, four main areas of focus for policy-makers are:

Upgrading and skills development: Without a major productivity improvement

programme, the industry will remain globally uncompetitive. Competitiveness involves fulfilling high-performance requirements of quality, lead times, flexibility, complexity and different types of product, social and environmental standards, and broader functions of input sourcing, product development, design understanding, inventory management and logistics. Suppliers have to migrate from CMT and develop full-package capabilities. Indigenous, diaspora-owned and regional firms have the potential for functional and product upgrading, but are hindered by local constraints.

Skills development is central to upgrading. This requires sector policies focusing on improving training institutions to expand the skilled labour, technical, supervisory and management pool. A government technology upgrading fund could offer incentives and low-cost funds for investment in skills and technology. Industry-specific vocational and technical training, management schools and universities could improve skills across the board. Such policies require the involvement of a multiplicity of actors. Experience in other countries shows that co-operation between industry associations and public actors has played a critical role in upgrading their clothing industries.

Local firm development and locally embedded clothing industries: Local firm development is a prerequisite to build a domestic industry and increase interactions and linkages with foreign firms. Opportunities exist for fostering input suppliers of less complex trims, hangers, packaging material, machine parts and finishing functions such as embroidery, printing, laundry and dyeing. These firms would require locations close to the exporting firms, support to scale up and upgrade their equipment and production processes, assistance in developing relationships with exporting firms, and access to low-cost finance.

There are no templates for developing local entrepreneurship. However, certain conditions and policies are necessary: (i) access to low-cost and long-term finance; (ii) access to management and technical skills training; (iii) support in establishing relationships with foreign investors, buyers and input suppliers; (iv) access to incentives similar to or higher (but not lower) than those of foreign investors; and (v) public procurement favouring local clothing firms and input suppliers.

Market diversifications: End-market diversification reduces export dependency, reduces vulnerabilities and enhances resilience. Other end markets, particularly regional and also domestic markets, might also exhibit better potential for growth and upgrading. Understanding these new markets and their buyers' sourcing policies is critical, as well as active promotion of diversification. There is great potential in establishing regional input value chains to overcome the limited size, capacities and capabilities of SSA clothing sectors, promote economies of scale, vertical integration and horizontal specialisation, and reduce lead times and costs, thereby capturing more value added. This is particularly important because buyers increasingly prefer one-stop shopping locations, given that shorter lead times and increased flexibility have become key sourcing criteria. A regional perspective is particularly important for developing a textile industry, given its higher capital, scale, skills and infrastructure intensity. There are strong opportunities in cotton-based yarn and fabric production. However, policy needs to encourage a favourable environment for textile investment, including long-term loans, attracting FDI, technical skills development, and electricity and water infrastructure.

Trade barriers of textile and clothing products pose a challenge to regional integration and need to be eliminated. Co-ordination and strategic partnerships between governments and

industry associations to facilitate value-chain partnerships are central to establish competitive regional production and sourcing networks.

Facilitating trade: For SSA clothing exporters, preferential market access remains essential in sustaining a position in clothing GVCs. The effects of preference erosion on SSA clothing exporters have to be taken into account in trade negotiations at the international, regional and bilateral levels. SSA governments need to negotiate duty-free access to more markets to support export diversification, in particular to middle-income and emerging markets such as Turkey, Russia, the Middle East, Mexico, Argentina, China and India. Emphasis should be put on non-restrictive RoO, as well as regional cumulation provisions to encourage the integration of regional textile and clothing industries and the leveraging of regional strengths. Favourable market access is, however, not enough for diversification to new end markets. More targeted policies at the industry level will also be necessary, including information on different markets, buyers and their sourcing policies, marketing, promotional and networking initiatives, and exhibitions.

Notes

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4 This document is an edited version of Commonwealth Secretariat Trade Policy Working Paper 2016/16, available at: www.thecommonwealth-ilibrary.org/commonwealth/trade/clothing-global-value-chains-and-sub-saharan-africa-global-exports-regional-dynamics-and-industrial-development-outcomes_5jlz4ft6f2nn-en;jsessionid=7k5ibam1mllaa.x-oecd-live-02.

Chapter 13

The Automotive GVC: Policy Implications for Developing Economies

Justin Barnes[1]

Abstract

This chapter critically reflects on the evolution of the automotive global value chain (GVC) within the context of current global dynamics. It presents a framework for developing countries with automotive industries, or those seeking to establish ones, to assess the implications of different dynamics arising within the sector. These changes include the domination of value chains by a small group of Tier 1 suppliers, the implications of strict environmental and safety standards and, finally, growth in emerging markets and the potential for regional value-chain development. These developments serve to reinforce a focus on the development of technological capabilities. Although the provision of subsidies by governments can facilitate entry into the automotive value chain, over time these aspects become less important than the imperative to develop specific capabilities which create competitiveness.

13.1 Introduction

Automotive production has been the bedrock of manufacturing in many developed economies over the last half century. It has been a key driver of job creation across a wide employment base, encompassing both skilled and semi skilled professions, raising living standards, stimulating economic upgrading, and enhancing productivity through structural change and the development of technology-enhancing externalities. The importance of the industry is increased through its wide range of production processes and the strong multiplier effects it has on associated manufacturing- and service-related sectors. The direct consequence of these dynamics is widespread developing economy support for the development of national automotive industries, in response to growing demand for vehicles among growing middle classes, and as a vehicle for industrialisation and associated per capita income growth.

In some cases (e.g. China, Mexico, Thailand, Turkey) the efforts of developing economy governments to support the industry's growth have been rewarded and resulted in rapidly growing automotive industries that have contributed to the transformation of national economic activity. However, in other cases large sums of scarce public resources have been spent on developing automotive industries, with limited impact. For example, the Australian government recently decided to withdraw support for an automotive industry that was showing signs of continued distress, despite substantial levels of government support. The experiences of many African economies are replete with examples of incipient automotive industries that failed to grow and generate associated multipliers, despite substantial government protection and direct subsidisation.

Consequently, it remains unclear whether or not the automotive industry is worth pursuing as an industrial development driver within developing economies desperate for socio economic upgrading, job creation and national innovation. Historical evidence and global value-chain (GVC) analysis of the industry's present development trajectory are used to support both negative and positive viewpoints.

This chapter reflects on the fundamental question of the automotive industry's suitability for driving industrialisation within developing economies. It analyses GVC dynamics and their consequences for automotive industries in developing economies. The chapter consequently comprises three parts. The first considers major automotive GVC dynamics and their implications; the second, the development challenges facing developing economy policy-makers considering the GVC dynamics explored; and the third, an analysis of the policy lessons from a range of developing economies that are attempting to grow their automotive industries.

13.2 Automotive global value-chain dynamics

The manufacturing portion of the automotive industry is being subjected to profound transformations that have an impact on its global geographical spread, the nature of the products being manufactured, the technology deployed and the financial returns being delivered to the multinational corporations (MNCs) that dominate global production. The implications for developing economies are significant. Worldwide, 80 million vehicles are sold every year. This creates the opportunity for large-scale production and significant capital investments, with the potential to spur economic growth and improve the livelihoods of many workers and their dependents. On the other hand, the global environment is highly competitive and dominated by already well-established developed economy MNCs and a small set of newly emerging competitors based primarily in China and India.

Since the global financial crisis (GFC), which reduced global demand for automotive vehicles precipitously, the global automotive market has experienced a marked recovery. While production volumes of passenger vehicles and light commercial vehicles (LCVs) dropped from 69.4 million units in 2008 to 58.4 million in 2009, a full 16 per cent decrease, medium and heavy commercial vehicles (M&HCVs), including buses and coaches, suffered a slightly less pronounced decline of 13 per cent, with production falling from 3.8 million to 3.3 million units. The decline was quickly reversed in the following year, however, when production exceeded 2007 volumes. Production then continued a steady growth trajectory through to 2015 (OICA 2016).

Positively, the global light vehicle market is projected to exceed 100 million units of aggregate demand by 2020, and the world's leading vehicle manufacturers appear to have largely recovered from the travails of the GFC. Even if global demand were to increase at only 1–2 per cent per year from 2020 to 2035, global demand would reach between 129 million and 149 million units, adding a further 40 million to 60 million units of annual demand. Moreover, much of this growth will be in developing economies. Developed economy markets are effectively being driven by replacement demand.

Consumers purchase new vehicles as their present vehicles age and when they can afford the purchase of new vehicles. Old consumers exit the market about as fast as young consumers enter the market. Increasing (or decreasing) affluence will shape the value of vehicles purchased, while new vehicle purchases may also be delayed for short periods because of affordability constraints (affecting the predictability of annual sales movements).

Table 13.1 Vehicle ownership ratios in selected developed and developing economies (number of persons in economy per motor vehicle in operation)

Economy type	Selected economies	Vehicle ownership ratio	Economy type	Selected economies	Vehicle ownership ratio
Developed	USA	1.3	Developing	Mexico	3.7
	Australia	1.5		Argentina	4.0
	Italy	1.5		Brazil	6.1
	Canada	1.6		South Africa	6.3
	France	1.7		Thailand	6.5
	Germany	1.8		Turkey	6.5
	United Kingdom	1.8		China	17.1
	Sweden	1.9		India	58.9
	Average	**1.6**		**Average**	**13.6**

Source: Thailand Automotive Institute (2012).

Market demand is, however, largely saturated, as revealed in Table 13.1. The world's developed economies have population to vehicle ownership ratios of 1.3 (USA) to 1.9 (Sweden), while the comparative ratios for developing economies range from 3.7 (Mexico) to 17.1 (China), and a staggering 58.9 for India.

The extent of the opportunity in major developing economies is supported by the expected growth in their 'middle classes'. The Thailand Automotive Institute (2012) presents evidence showing that the middle-class (i.e. vehicle-consuming) population in the Asia-Pacific region will increase from 525 million in 2009 to a projected 3.2 billion in 2030. Conversely, the middle-class population will decline in North America (338 million in 2009 to 322 million in 2030) and will remain relatively stable in Europe (664 million to 680 million). Strong African middle-class growth is also predicted, although off a much smaller base (137 million to 341 million).

Even if conservative estimations for future trends are used – for example, population to vehicle ownership ratios increase as urbanisation, mass commuting systems and environmental considerations gain further traction – there is clearly still massive scope for substantially increased global vehicle consumption, driven by developing economies. The work of Dargay *et al.* (2007) supports this view. They emphasise that the income elasticity of vehicle ownership increases rapidly over the income range of $3,000 to $10,000, when ownership increases at twice as fast as per capita income. Between $10,000 and $20,000, rates of increase reach parity. At income levels above $20,000, ownership decelerates as it reaches saturation level. Based on these distinctions, vehicle ownership in virtually all Organisation for Economic Co-operation and Development (OECD) countries will have reached saturation by 2030, while in Asia it will be at only 15–45 per cent (and in Africa even lower).

The shape of the global market is consequently transforming at an unprecedented rate. In addition to the developed/developing economy market dynamics, the industry is undergoing other transformations, ranging from rapidly evolving vehicle technology, linked to fundamental environmental, safety, infotainment and mobility market changes in developed economies, to burgeoning entry-level vehicle demand in non-traditional developing economy markets. This is driving

a clear bifurcation of global vehicle demand. For example, sports utility vehicles (SUVs) are replacing sedans as the vehicle of choice in low-growth, high-volume developed economies, while demand for other vehicles is growing rapidly in high-growth developing economies as an emerging middle class transitions from using motorcycles and public transport to owning light vehicles.

The major generic global vehicle trends that need to emphasised relate to the following:

- Increased light vehicle demand to 100 million units over the next four years, with this being driven largely by Asian-dominated developing economy demand. Stagnant M&HCV demand is projected, however, because of lower levels of capital investment globally.
- Changing consumer preferences for light vehicles and M&HCVs, leading to a global bifurcation of demand, with developing and developed economies following different demand trajectories.
- Environmental pressures tied to the rising cost of fossil fuels and legislation regarding emission standards in various major economies. This is changing the product strategies of the world's leading original equipment manufacturers (OEMs) and driving a focus on increasing fuel efficiency across vehicle platforms.
- Replacement of fossil fuel-based internal combustion engines with environmentally sustainable engines; although the future dominant technology is not yet clear, hydrogen fuel cells and electrically powered engines are the two most likely contenders, along with a range of hybrid technologies (at least in the period of transition to full fossil fuel replacement). According to Bloomberg New Energy Finance (2016), 35 per cent of global car sales are estimated to be electric vehicles (EVs) by 2040, with annual sales of 41 million units. By 2040, it is estimated that EVs will account for 25 per cent of the total global car fleet. This increase will be driven by regulatory support and the declining cost of battery packs. The total cost ownership of EVs relative to internal combustion engine vehicles is therefore set to decline significantly.
- Increasing concern for driver, passenger and pedestrian safety in developed economy markets, manifesting in the rapid development of passive and active safety systems. Safety considerations are, however, developing differently across the global vehicle market. In developing economies, the use of passenger vehicles is viewed as inherently safer than the use of motorcycles or three-wheelers, so the safety standards for entry-level small vehicles in these markets are generally minimal. The opposite is true in developed economy markets, where both passive and active safety standards in vehicles have improved substantially over the last few model iterations. In much the same way as environmental standards in vehicles have advanced partly through consumer demand and partly through the setting of ever-tighter government legislation in major developed economy markets, advanced safety features have become basic selling requirements of even entry-level vehicles. The latest safety consideration being tested internationally is the development of autonomously driven, i.e. self-driving, vehicles. Self-driving cars can be divided into two types: semi-autonomous and fully autonomous (BI Intelligence 2015). A fully autonomous vehicle can drive without any input from the driver. It is expected that by 2020, there will be 10 million vehicles on the road with self-driving features. The first fully autonomous vehicles are expected to appear by 2019 (ibid).
- Growing demand for in-vehicle infotainment (and associated global

connectivity) systems. Vehicles are now far more connected to the internet, navigation and smart phones than ever before, while simultaneously capturing swathes of information on vehicle-driving behaviour, fuel consumption and the broader driving environment. This trend straddles both developed and developing economy markets; advanced infotainment systems are extending more rapidly than passive and active safety equipment into entry-level developing economy market models.

The implications of these market developments are profound for the world's OEMs – the lead firms of the automotive industry. At one level, they are struggling to devise effective vehicle platform strategies that permit economies of scale in design and production, while at the same time providing the market with an increased range of vehicle models that are built on these platforms. At the other level, new environmental and safety standards, combined with increasing infotainment demands, are placing substantial pressure on vehicle development and production costs. The consequences of this are captured in an Australian National Productivity Commission report on the Australian automotive industry, which notes 'in the decade to 2010, Toyota added new components and subsystems worth $1400 to its base model Camry, while the Camry's recommended retail price in the United States fell by an average of 1 per cent each year in real terms over the same period' (2013, p. 49).

It also notes that 'McKinsey and Company noted that between 2001–2010, producers in the United States were required to spend an additional $400 per vehicle on components to satisfy increased safety standards' (National Productivity Commission 2013, p. 49). Combined with the global automotive industry's continued production overcapacity, which hovers around 20 per cent, these market developments have placed significant pressure on the financial sustainability of the global automotive industry. The disparity between demand for vehicles and production capacity has substantially undermined the financial returns of MNC OEMs and automotive component manufacturers. This is despite the companies' efforts to rationalise production and standardise platforms. Overcapacity is forecast to reach 25.5 million vehicles in 2019, much of which will reside in Europe. The average net profitability of the world's top ten vehicle assemblers was thus only 3.95 per cent in 2014. While OEMs are in a cycle of growing production and turnover, revenue generation has not necessarily developed in tandem with improved profitability.

Critically, the world's leading vehicle assemblers have transferred these pressures on to their component manufacturers, which in turn have transferred their pressures on to the next tier of suppliers, etc. This has resulted in a fundamentally transformed automotive GVC. Individual OEMs now work closely with a small set of Tier 1 suppliers, which are responsible for manufacturing entire subassemblies and vehicle modules for them; co-ordinating lower-tier component manufacturing activities; and even developing new products in association with the OEMs. This has led to consolidation among the world's leading automotive component manufacturers, which have developed truly global production footprints.

The direct consequence of this development has been the substantial scaling up of the world's leading component manufacturers over the last decade. The world's largest automotive component manufacturer is Robert Bosch of Germany, which generated $44 billion in sales to OEMs alone in 2014 (Automotive News 2015). The other mega Tier 1 suppliers to OEMs are Magna (Canada), with $36 billion in sales to OEMs; Continental (Germany), $34 billion; Denso Corporation (Japan), $32 billion; Aisin Seiki (Japan), $28 billion; Hyundai Mobis (South Korea), $27

billion; and Faurecia (France), $25 billion. Combined, these seven Tier 1 suppliers generated $226 billion in sales to OEMs alone (i.e. excluding global aftermarket sales). While the automotive GVC remains dominated by MNC OEMs (Toyota, Volkswagen, General Motors, Ford, etc.), this domination is now being managed in association with a core set of MNC Tier 1 component manufacturers that have a similar global profile to their OEM customers.

13.3 Global policy context

The automotive industry's substantial growth in recent decades has been spurred by the development of GVCs and the dispersed production footprints of MNC producers. While a general reduction in automotive trade barriers (for both vehicles and components) has been encouraged by the establishment of the World Trade Organization (WTO) in 1995, policy developments in recent years have served to both promote and hinder industry trade, with implications for investment decisions of major automotive OEMs looking to capture market share. It is also important to emphasise the direct role of national governments in supporting the automotive industry during and after the GFC. These interventions included market stimulation initiatives (tax rebates, generous trade-in allowances on old cars) to support demand recovery in domestic markets; the provision of direct financial support to OEMs and component manufacturers (lay-off allowances for workers placed on short time, the provision of loans); and, finally, direct equity purchases (e.g. the US federal government's purchase of equity in General Motors and Chrysler[2]).

Identifying the individual support elements provided to national industries is less important than recognising the vast support provided over the crisis. Governments in both developed and developing economies, including the MNCs' host countries, were clearly galvanised into 'saving' the automotive industry, in recognition of its importance to their economic prosperity. The central importance of the automotive industry to new or continued industrial development appears well understood by a large swathe of the economies with sizeable or emerging automotive industries. This has created a tension in respect of trade dynamics. The seemingly inevitable slide towards greater trade liberalisation within the industry has at best lost momentum, and at worst slowly been reversed. Global trade policy is, however, only one policy dynamic that needs to be understood in respect of global automotive policy developments.

Automotive homologation is the process of certifying vehicles or components in vehicle manufacture, in line with various statutory market regulations. Homologation standards apply to all vehicle types, particularly in the areas of environmental protection and safety. For vehicles to be exported and sold, it is necessary that they have the correct approvals in line with the official standards of the destination economy. These homologation requirements have become more demanding, because of a growing emphasis on safety and environmental protection in developed (and some developing) markets. This has major implications for OEMs and component manufacturers attempting to access international markets. Increasingly stringent homologation trends in respect of vehicle fuel efficiency, safety standards and environmental emissions can create non-tariff barriers to entry to certain markets by raising the costs and requirements for entry.

The major environmental standards that need to be adhered to by the global automotive industry are typically set in the United States, the European Union and Japan. Major developing economies typically have lower environmental requirements, although there

is likely to be increasing alignment in future, as leading developing economies tighten their legislation and align requirements with their major trading partners.

One of the major reasons for the substantial growth in automotive trade relates to the general reduction in vehicle and component tariffs across most developed and developing economies. While it is still one of the most protected industries globally, tariffs have generally reduced in line with the WTO requirements that bind most countries. One of the direct outcomes of lower tariffs is the development of GVCs. OEMs and their major component manufacturers are less inclined to produce in national or regional silos. Lower tariffs have enabled the increased trade of automotive materials (specialist steels and plastics), automotive components at different tiers (e.g. Tier 2 - forgings, castings, mouldings, machined components etc.; and Tier 1 - subassemblies and modules, replacement parts), as well as completely knocked-down kits and fully assembled vehicles. This is supported by most economies having lower tariffs on components than on fully assembled vehicles. Vehicle production consequently has a global footprint, both in the trade of completed vehicles and in respect of components at each link of the automotive GVC.

The industry's global production footprint and global supply-chain linkages have placed huge cost pressures on manufacturers throughout the GVC. This is due to the transparency that OEMs have when sourcing components, and hence their ability to target pricing levels for components and subassemblies for vehicles based on the best-cost locations for those products globally. Prices have consequently been driven down throughout the supply chain. Component manufacturers also typically sign price-down performance contracts with OEMs over the duration of the lifecycle of the products they supply, placing substantial pressure on them.

Preferential trade agreements within and between markets have also had a significant impact on the location and structure of automotive production. Preferential market access provides OEMs with a significant cost advantage in major markets, so regional and bilateral trade agreements have shaped the global automotive manufacturing space. Key in this regard have been free or preferential trade agreements providing access to the US and European markets. This has led to expanding production in locations such as Mexico (for the USA), and Poland, Slovakia, the Czech Republic and Hungary (for the EU). Regional emerging markets have begun to provide similarly attractive opportunities for OEMs, e.g. ASEAN[3] (the Association of Southeast Asian Nations) and Mercosur[4] (Mercado Común del Cono Sur).

Sturgeon *et al.* (2009) highlight two important features of the automotive industry in terms of regional location and integration. The first is that OEMs, and therefore parts production, have historically been located close to end markets, largely because of political sensitivities. They note that 'market saturation, high levels of motorisation and the tendency of automakers to "build where they sell" have also encouraged the dispersion of final assembly, which now takes place in many more countries than it did 30 years ago' (p. 9). Secondly, they note that a distinctive feature of the automotive industry is its strong regional structure. They argue that global integration has developed alongside regional-scale patterns, due to the need for customisation of centrally designed vehicles, albeit assembled from parts manufactured in various geographical locations dependent upon production factor costs. The result is the development of local, national and regional value chains within a globalised organisational structure. It is consequently necessary to examine the automotive GVC from a regional perspective.

13.4 Developing economy policy lessons

Developing economies with existing automotive industries (or even aspirations of developing an automotive industry) have been responding to these market growth opportunities, and to the major vehicle trends evident, by shifting their trade and industrial policy frameworks. The positions taken by economies include maintaining non-dynamic, low-value industries (Egypt, Kenya), attempting to establish new industries from scratch (Nigeria), aggressively protecting domestic production through the imposition of elaborate new trade barriers (Brazil), supporting exports (India) and building new productive capabilities for local/regional/global supply (Morocco, Thailand, Mexico, Turkey). Using an adjusted version of Dunning's (1980) investment terminology, which considers the underlying reasons for FDI globally, both market-seeking and efficiency-seeking considerations clearly underlie how developed and developing economies have attempted to position themselves within the automotive GVC. Where economies have sizeable present or potentially large future vehicle markets, significant protection is currently being provided to OEMs operating in, and selling their products into, the domestic market. Economies that fall into this category are Thailand, Malaysia, India, Mexico, Nigeria and Brazil. An extension of this market-seeking support framework is the aggressive focus of many economies on establishing either bilateral or multilateral trade agreements that provide preferential market access to adjacent or proximate markets. The principal beneficiaries of this approach are economies adjacent to, or within, developed economy trading blocs (e.g. Mexico into the North American Free Trade Agreement [NAFTA], and Slovakia, Morocco and Turkey into the EU), as well as those economies within regional developing-market constellations (Brazil into Mercosur, Thailand and Malaysia into ASEAN). China has its own unique development trajectory driven by the scale and growth potential of its own domestic market.

At the same time, developing economies are also looking to develop competitive production capabilities. These asset-enhancing policies appear to be most focused on the realisation of scale economies, product specialisation and incorporation into MNC GVCs. The economies that have driven this approach most aggressively include Thailand, Morocco, Turkey, Slovakia and Mexico. Often operating in conjunction with domestic market protection or regional market extension policies, asset support is focused on securing significant sunk capital in the domestic automotive industry (in the form of investment grant support, provision of tax credits linked to investment levels and the provision of discounted/free bulk infrastructure) and the development of associated skills and technical capabilities that are attractive to MNC investors (testing, engineering, technical infrastructure).

A key lesson drawn from these experiences is that securing an initial automotive investment, and then sustaining it, has required a combination of market access and asset-based government incentives that have assisted in supporting the establishment of a viable automotive industry production space. Where a government has withdrawn this support, as is the case in Australia, the industry's production presence in the economy has been substantially reduced. Where government support has been well structured, and targeted at building industrial capabilities in partnership with leading international OEMs, substantial production capacity has been created. The examples that stand out in this regard are Thailand, Turkey, Mexico, Slovakia and, more recently, Morocco. All investments are by their nature market-seeking insofar as a market is always required for manufactured products. In the context of policy development, however, a narrower definition of market-seeking

investment is used: an investment is made because of preferential market access, as opposed to an investment driven by the clear competitive manufacturing advantage created through the capital deployed in the economy. Based on this definition, a sustainable automotive policy framework can be created based on two key variables:

1) the domestic/regional market advantage secured from investing in an economy, with increased market depth encouraging import replacement; and

2) the competitive capabilities secured in an economy by the investment, with a high level of dynamic capability (process and/or product) encouraging further investment in the economy, and increasing the attraction of the economy as an export base.

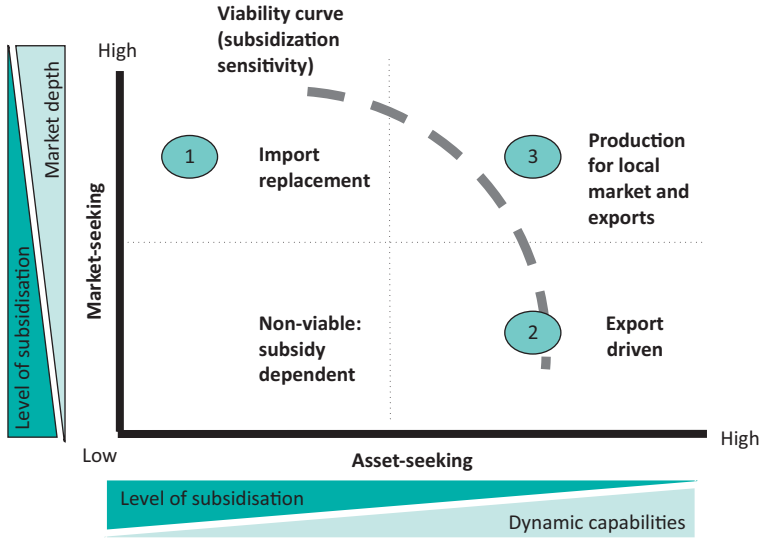
Based on this categorisation, it is then possible to consider a two-by-two automotive industry viability matrix for an economy, as in Figure 13.1. The framework essentially identifies viable automotive spaces as based on import replacement, driven by exports or, ideally, a combination of the two. The framework also identifies an unfeasible quadrant, termed 'Non-viable: subsidy dependent'. The automotive industry's sensitivity to subsidy reduces based on a dynamic interplay between market- and asset-related benefits derived from an investment. So, as markets deepen (locally/regionally), and as competitive capabilities develop, automotive industries require less subsidy from the national and/or regional/local governments of the economies in which they are located.

The basic investment (and associated production) narrative that emerges from the framework for developing economy automotive producers appears to largely follow four stages:

1) **Attracting** an initial OEM investment that is sufficiently meaningful to build a centre of gravity for a future automotive industry. This investment is generally very heavily incentivised.

2) **Securing** the initial OEM investment, by following through on the establishment of required skills, bulk infrastructure supply, required support institutions etc. Key to this stage is proving the competitiveness of the initial investment made, thereby encouraging production for markets beyond the confines of the domestic market.

Figure 13.1 Defining a sustainable automotive policy framework



3) **Deepening** OEM investments, through the expansion of the initial investment and/or the attraction of additional OEM investments. This stage represents the development of an actual automotive industry, as opposed to simply an incentive-induced anchor automotive investment, or set of automotive investments. Morocco appears to be entering this phase, while Thailand and Turkey have already moved through it. This appears to be the phase in which the Malaysian automotive industry has been 'trapped'. Its highly protected market (until recently) enabled the development of an uncompetitive national automotive industry that was never able to develop deep capabilities, with both national OEM 'champions' manufacturing globally uncompetitive products. This also appears to be the position in which South Africa is trapped, although it is arguably for the exact opposite reason from that observed for Malaysia. In South Africa's case, it would appear as if local/regional market depth has been an insufficient driver for industry development, placing too much importance on the development of deeper dynamic capabilities, a process that has not yet sufficiently occurred.

4) **Developing** the automotive component manufacturing supply chains behind OEM investments (and broader value-chain services), and hence value-adding activities within the broader automotive industry. This represents the stage where an advanced automotive ecosystem develops, with the commensurate economic multipliers that automotive production can bring to a local (and broader national) economy. Mexico, Thailand and Turkey appear to have progressed the most in relation to the development of such an ecosystem. Interestingly, Australia had an advanced (albeit high-cost) automotive production ecosystem, and yet chose to exit the industry.

Developing economy automotive policies clearly need to be sensitive to the stages of development of their existing/incipient automotive industries. Attracting an OEM in the initial stages of the development of an automotive industry requires a clear market rationale (domestic or regional market opportunity), while policy will shift significantly when considering more established developing economy automotive industries that are looking to move up the value chain and develop their competitive capabilities. The support provided to the Thai and Turkish automotive industries provides potentially critical lessons for developing economies looking to develop their automotive industries:

1) provide substantial support for greenfield and brownfield plant investment, in the form of generous corporate income tax benefits based on the quantum of the investment made, or over a particular timeframe;

2) provide substantial support for asset-enabling activities, in the form of incentives for training/skills development, industrialisation (testing), research and development (R&D) and industry-specific infrastructure;

3) align domestic market taxation and regulatory requirements with local production capabilities and specialisation (e.g. Turkey's requirement that OEMs invest in dealership networks before being able to sell even small volumes in the domestic market; and Thailand's domestic market tax structure, which effectively ensures a market bias for locally produced LCV derivatives and eco cars); and

4) co-ordinate upgrading support for the automotive industry (e.g. the Thailand

Automotive Institute), often working in close collaboration with selected anchor investors.

In Thailand and Turkey, government support is less focused on attracting investments from entirely new industry players, and more focused on deepening existing automotive activities, particularly in those areas that the government (working in collaboration with industry) has identified as strategically important to supporting sustainable industry development. In Thailand, this support has clearly been driven by an Automotive Masterplan (which Malaysia has recently mimicked through its establishment of a National Automotive Plan), while in Turkey the increasing skills and technology base of the local industry gives the context for support, hence the support for R&D and technologically advanced infrastructure. In all three cases (Thailand, Turkey and recently Malaysia), there is also a clear focus on deepening capabilities in specific areas of product specialisation. These cases contrast with Morocco, which is still focused on securing its new automotive industry. Support in Morocco appears to have been focused on mitigating investment risk by providing advanced automotive infrastructure and large-scale skills development support for investors, alongside substantial grant support and the attraction of additional OEM and Tier 1 investments to create a functioning automotive ecosystem upon which further deepening support can then be provided.

Clearly, each developing economy needs to follow its own automotive industry development path, with policy being largely temporary. However, as argued in this chapter, an understanding of automotive GVC dynamics should frame policy, particularly in relation to market- and asset-developing requirements, and the associated opportunities and challenges that emerge. Lessons from successful developing economies reveal that Dunning's approach to understanding FDI has relevance to understanding the potential for automotive industry development within developing economy contexts (Dunning 1980). Ignoring the automotive industry's base scale and technology requirements will probably result in policy failure, or at least substantial subsidisation costs for developing economies; but carefully crafted policy that deepens asset capabilities over time, while simultaneously improving access to markets (especially local and regional), has the potential to support the development of high-value automotive industries that contribute to the socio economic development of developing economies.

Notes

1 Chairman, B&M Analysts.
2 This equity was subsequently sold back into the private sector. The US government effectively provided liquidity to the US automotive industry through its strategic acquisition of GM and Chrysler shares, and recovered its investment once the firms had stabilised their operations, secured sufficient liquidity to operate their global businesses and gained sufficient private sector interest in their share capital. In the case of GM, this related to the sale of shares to institutional investors; for Chrysler, it involved the sale of additional shares to Fiat, which then took majority control of Chrysler.
3 Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam.
4 Brazil, Argentina, Paraguay, Uruguay, Venezuela.

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Chapter 14

Tourism, Trade in Services and Global Value Chains

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Abstract[4]

This chapter examines the scope for economic diversification within the tourism sector, as well as across sectors, for small states that are heavily dependent on the earnings derived from tourism exports. Adopting the global value-chain (GVC) perspective, this chapter explores the linkages between different services sectors and tourism to identify opportunities for upgrading into higher-value activities. Cross-border service activities in the tourism sector, including online services provided by tour agents and online payment systems, are all alternative forms of services supply under the General Agreement on Trade in Services (GATS) framework. Although of tremendous value, the interlinkages between this type of service and the conventional tourism value chain are not always considered. Other forms of tourism services, including through commercial presence, are also not often exploited. The evidence presented in this chapter suggests that more effective upgrading processes for the tourism value chain include considering the interlinkages between different modes of service supply.

14.1 Introduction

The growth of global value chains (GVCs) is an important transformation in the contemporary global economy, as it is a new organisational method in business practices. Technological change in the information and communications technology (ICT) sector, in particular, has been a key driver of GVCs, facilitated by trade and investment. Firms source service inputs either domestically or internationally, at arm's length (i.e. offshoring) or within the firm (i.e. in-house). The growth of this process is referred to as the rise of 'servicification'. Most studies in this area have been on the impact of servicification on the manufacturing sector and to a lesser extent on agroprocessing industries. The role of servicification in the tourism sector has largely been ignored.

The aim of this chapter is to highlight the important contribution of the services sector to GVCs in the tourism economy. The tourism sector is a key driver of the economy and the services sector in many developing countries, particularly small island developing states that have a heavy reliance on the sector. Given this, expansion and diversification of the tourism sector is a key strategic objective.

It is increasingly recognised that developing countries can improve their competitiveness, growth and sustainability by participating in GVCs and that to do so they need to engage in a process of industrial upgrading (Humphrey and Schmitz 2002). The argument is that economic diversification and social transformation are achievable once countries strategically tap into GVCs and move beyond the provision of basic or low value-added services (Low 2013).

The chapter draws on the experience of the Caribbean, because it is a mature tourism destination that has attracted significant

investment over time from international, regional and local firms. The economic impact of tourism in the Caribbean is high in comparison with the world average and with other developing regions. In fact, the Caribbean is the most tourism-dependent region, given travel and tourism's contribution to gross domestic product (GDP), employment and export earnings. Many Caribbean states rely heavily on tourism, including Jamaica (the economic impact of tourism in 2012 was 27.4% of GDP), Saint Lucia (39%), Barbados (39.4%), The Bahamas (48.4%) and Antigua and Barbuda (77.4%) (Edghill 2013). The findings of the chapter serve as an interesting point of reference for other developing countries and the wider Caribbean.

14.2 Defining tourism

According to the World Tourism Organization (UNWTO) definition, 'tourism is a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes' (UNWTO, n.d.a). Under this broad scope, in a strict sense a tourist would be any visitor to a country other than his/her own whose trip includes at least an overnight stay.

Tourism and travel-related services are traditionally defined as services provided by hotels and restaurants (including catering), travel agencies, tour operator services, tourist guide services and other related services. These are classified as sector 9 in the World Trade Organization (WTO) W/120 Services Sectoral Classification List. Tourism is the sector that received the largest number of commitments by WTO Members in the Uruguay Round, with 60 countries having made commitments in this sector.

The World Tourism Organization divides tourism services into three basic types: domestic, inbound and outbound. Domestic tourism comprises the activities of a resident visitor within the country of reference, as part of either a domestic tourism trip or an outbound tourism trip. Inbound tourism comprises the activities of a non-resident visitor within the country of reference on an inbound tourism trip. Finally, outbound tourism includes the activities of a resident visitor outside the country of reference, as part of either an outbound tourism trip or a domestic tourism trip (UNWTO, n.d. a).

Tourism is a highly 'perishable' commodity, since unsold airline seats and hotel rooms, for instance, have no residual value. Thus, the cost of opportunity is especially high in this services sector, since it is impossible to obtain an income on the seats and rooms that were not occupied in the past.

Another important issue that also affects tourism is migration regulation (WTO 1998). This will largely determine how easy it is for tourists to access any given location and how easily foreign workers may be recruited to help with the required support services for tourists.

14.3 Tourism and the global economy

International tourism (including both travel and passenger transport) generated US$1.4 trillion in export earnings in 2013. Receipts earned by destinations from international visitors grew by 5 per cent to reach $1.2 trillion, while an additional $218 billion was earned by international passenger transport (UNWTO 2014). International tourist arrivals grew by 5 per cent in 2013 to 1.087 billion (UNWTO, n.d. b). Tourism accounts for 29 per cent of world exports of services and 6 per cent of overall exports of goods and services. It is ranked fifth as a worldwide export category, after fuels, chemicals, food and automotive products. It is the highest-ranking services

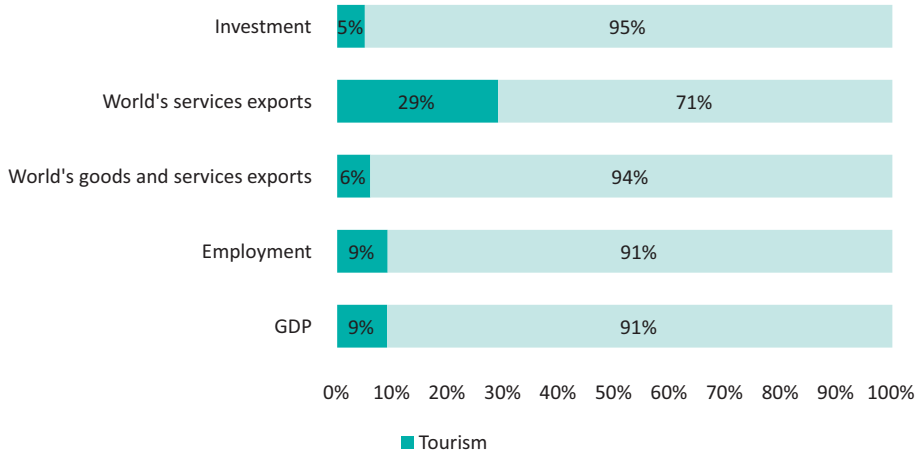
industry export. Tourism is the first and most important export category and foreign exchange earner for many developing countries (UNWTO 2014).

The direct contribution of travel and tourism to the world economy was estimated to account for $2.1 trillion and to provide 101 million jobs in 2012. But the real contribution of tourism is much more than this when the indirect and induced impacts are also taken into account. Including together the direct, indirect and induced impacts, travel and tourism's total contribution to the world economy in 2012 was an estimated $6.6 trillion to global GDP, $760 billion to investment and $1.2 trillion to exports (all in 2012 prices), as well as providing around 260 million jobs (World Travel & Tourism Council 2013). The economic contribution of tourism to the global economy is set out in Figure 14.1, shown in terms of its contribution to these four key economic variables.

More specifically, this indirect contribution relates to the economic contribution to GDP and employment of the following sectors: capital investment on travel and tourism; government collective travel and tourism spending; and supply-chain effects, which are the purchases from suppliers dealing directly with tourists that use them as inputs to their final tourism output. 'Induced contribution' refers to the spending of direct and indirect employees working in activities that involve tourism, and may include the following categories: food and beverages; recreation; clothing; and housing and household goods (World Travel & Tourism Council 2012). Figure 14.2 breaks down the direct, indirect and induced contributions of travel and tourism to GDP.

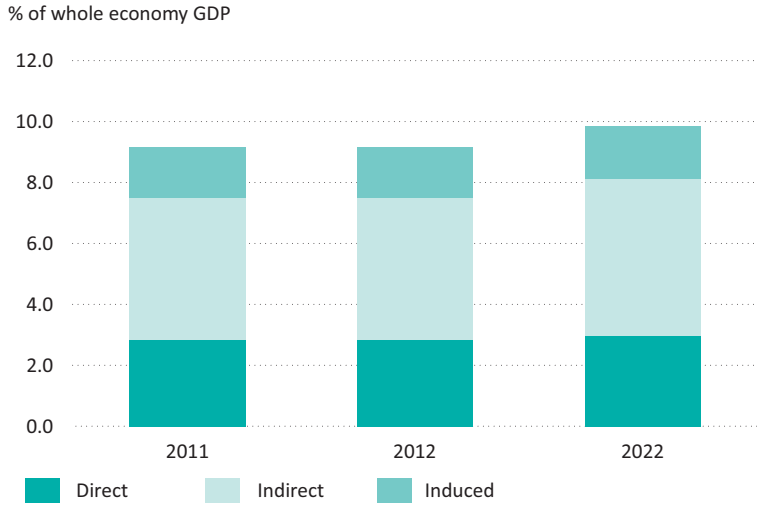
With the growing importance of travel and tourism in the global economy, it is estimated that, by 2022, travel and tourism's total contribution will account for around 10 per cent of world GDP and more than 1 in 10 jobs. Figure 14.3 shows the employment derived from the tourism sector in percentage terms and indicates a considerable increase forecast for the number of jobs related to tourism and travel by 2022. The World Travel & Tourism Council (2013) estimates that more than 70 million jobs will be created in this sector over the next decade, with two-thirds of these additional jobs located in Asia, the most dynamic region for future tourism growth.

Figure 14.1 Contribution of tourism to the global economy



Sources: Figures on investment from World Travel & Tourism Council (2013). Figures on goods and services exports, employment and GDP from UNWTO (2013). Figures on world's services exports from UNWTO (2014).

Figure 14.2 Direct, indirect and induced contributions of travel and tourism to GDP



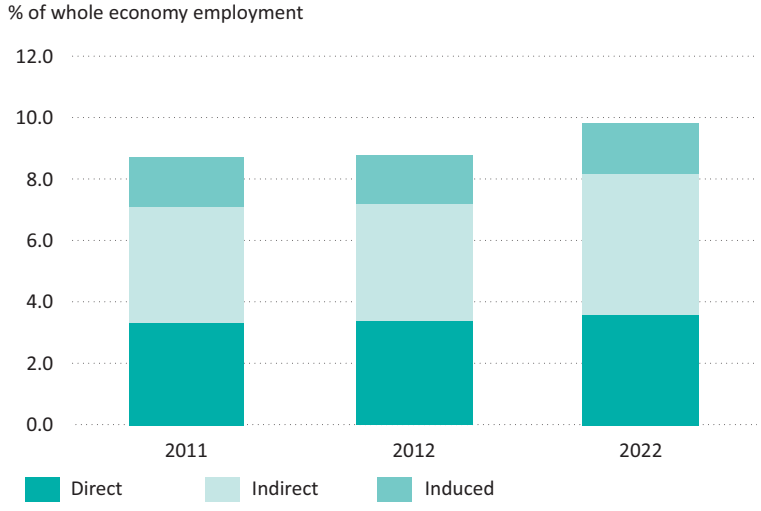
Source: World Travel & Tourism Council (2012).

14.4 Tourism services and global value chains

Under the WTO General Agreement on Trade in Services (GATS), the mode of supply used to trade tourism services is Mode 2. It is the movement of the consumer from his/her home country to consume, in this case, tourism services abroad. The GATS defines this in Article 2(b) as the 'Supply of a services in the territory of one WTO Member to the service consumer of any other Member'. This involves the cross-border movement of consumers, who travel to the source of the service in question, in this case tourism.

A broad range of workers, both skilled and unskilled, employed inside national borders contributes to providing tourism services (WTO n.d.). This includes such jobs

Figure 14.3 Total contribution of travel and tourism to employment



Source: World Travel & Tourism Council (2012).

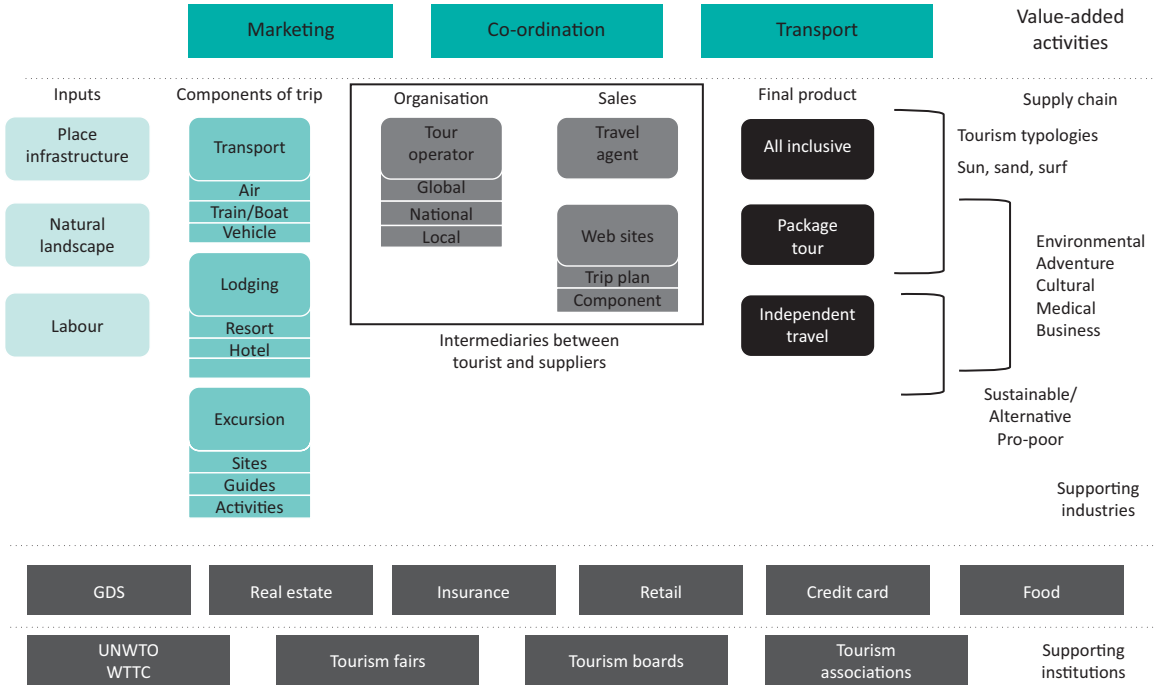
as hotel staff, tourist guides, taxi and bus drivers, entertainment workers and many others. When such services are provided to tourists, they are considered to be exports of trade in tourism services by the supplying country, and imports of tourism services by the country from which the tourists originate. The corresponding payments for these tourism services appear in a similar way in the balance of payments ledger, as foreign exchange earnings in the first case, or as foreign exchange payments in the second case.

Some examples of trade in tourism services may be as follows: a visitor spending two months travelling around the Caribbean, making use of accommodation in different countries; visitors who arrive in a city for just one day but have lunch in a restaurant and use taxi services and possibly spa services; or persons who disembark in a Caribbean country for one or two days from cruise ships departing from Miami.[5]

The tourism sector can be mapped as a GVC, both from the point of view of the tourist and from the point of view of the tourist providers. It is interesting that this service sector, so important to so many developing countries, has been very little studied from a value-chain point of view.

From the point of view of the tourist provider, the tourism global production network depicted in Figure 14.4 can be characterised as having five segments: inputs, components of trip, organisation, sales and final tourism 'product'. The components of trip, organisation and sales segments are represented by tourism businesses in inbound and outbound tourism destinations. The trip segment components are travel, lodging and excursions. Every segment is a mix of large and small firms and, if the investment regime allows it, a degree of foreign direct investment (FDI). The accommodation sector is a part of the lodging or 'trip segment' component of the value chain.

Figure 14.4 Tourism global production network



Source: Christian (2012); WTTC, World Travel & Tourism Council.

The organisation and sales segments act as intermediaries. Within the organisation segment, tour operators knit together an array of tourism products to create the tourist experience. In the sales segment, travel agents are the strongest retail venue. They sell tourism products, online and in sales offices, and inform potential tourists about destinations and suppliers. These tourism intermediaries are often vertically integrated operations, including not only retail sales and tour operator co-ordination, but also hotels and air transport. All the tourist experiences can be bundled together and sold as a packaged tourism 'product' by global tour operators. Travel agents can operate as subcontractors to global tour operators, but can also sell their tours directly to tourists.

The tourism GVC shown in Figure 14.5 follows the tourist's 'footprint', or the series of the tourist's interactions with firms and tourism suppliers. It includes the distribution, transport, lodging and excursion segments, as consumed by the tourist. The accommodation sector in this case is included in the inbound country under 'lodging'.

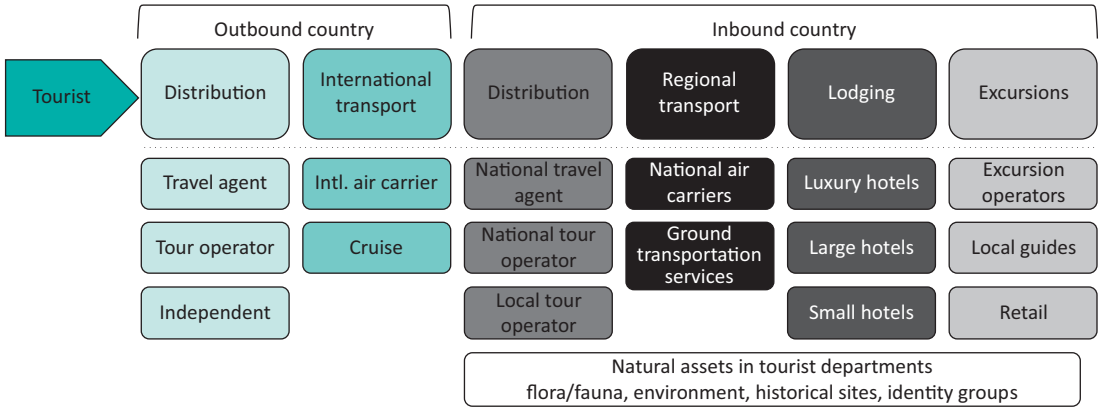
One of the goals of countries or firms that are part of the tourism value chain is to upgrade their activities along the chain. Four upgrading trajectories are key drivers of the global tourism industry:

- pursuing pro-FDI policies to attract international hotels offering higher levels of luxury;
- upgrading the co-ordination and destination trip planning by global tour operators;
- using upgraded information technology services to establish a more sophisticated web presence; and
- catering to the growing diversity of international tourists, with varied tastes and preferences, with ever more specialised 'products'.

14.5 Tourism global value chains and trade in services: perspectives from the Caribbean

The tourism industry is highly dependent on transport, telecommunications and financial services. These sectors have a huge impact on the level of competitiveness of tourism services, since they are essential elements of the tourism value chain. Transport is key for travel agencies and tour operator services, telecommunications services are necessary components of

Figure 14.5 Tourism global value chain



Source: Christian (2010).

marketing and co-ordination activities between travel agents and tourists, and financial services are vital for the settlement of payments. What is illustrated here is the role of servicification in the tourism industry and the expanding role of trade in services beyond just Mode 2 'consumption abroad' activities (see Table 14.1).

14.5.1 Mode 1: cross-border

An increasing proportion of the global value added in the tourism sector has been captured in Mode 1 or 'cross-border' activities, which operate largely on the outbound side of the GVC. Of particular importance has been the rise of travel e-commerce – for example, the creation of automated transactions between travel service providers (mainly airlines, hotels and car rental companies) and travel agencies (see Quinby 2009). Global distribution systems (e.g. Amadeus, Sabre and Galileo Global), online travel agencies (Priceline and Expedia[6]) and peer-to-peer online sharing networks (e.g. Airbnb, Tripping, HomeAway), whereby consumers/tourists purchase accommodation,

Table 14.1 Tourism and trade in services

Supplier presence	Mode of supply	Description of activities
Service supplier not present within the territory of the member	Mode 1: Cross-border supply – the possibility for non-resident service suppliers to supply services across borders into the member's territory	Supply of services from one country to another, for example ICT-related services such as online booking or reservations through: 1) global distribution systems (e.g. Amadeus, Sabre, Galileo Global) 2) online travel agencies (e.g. Expedia and Priceline) 3) peer-to-peer online marketplace and homestay networks (e.g. Airbnb, Tripping, HomeAway, FlipKey) 4) booking direct through major hotel and airline brands such as Hilton, Marriott, Hyatt, Starwoods, Accor, American Airlines, British Airways, Delta 5) national and regional destination management services transmitted via the internet and other forms of telecommunications
	Mode 2: Consumption abroad – the freedom for the member's residents to purchase services in the territory of another member	Consumers from one country travel to another country and spend more than one day but less than one year as stay-over travellers; for example, to enjoy holidays, do business, visit friends and family, enjoy eco, cultural, festival and heritage tourism, or take advantage of medical and health and wellness tourism
Service supplier present within the territory of the member	Mode 3: Commercial presence – the opportunities for foreign service suppliers to establish, operate or expand a commercial presence in the member's territory, such as a branch, agency or wholly owned subsidiary	A company from one country establishes a subsidiary or branch to provide services in another country; for example, setting up a travel agency, hotel, restaurant, tour operation, airline or catering company
	Mode 4: Movement of natural persons – the possibilities offered for the entry and temporary stay in the member's territory of foreign individuals in order to supply a service	Individual professionals travelling from their own country to offer services in another; for example, chefs or entertainers working on cruise ships or in hotel chains

air travel and car rental as either standalone or bundled services, are also becoming more prevalent. As a result, an increasing proportion of tourism-related economic activity is embedded in online payments facilitated through international operators and transnational firms (e.g. hotel chains that allow direct booking).

Developing countries have largely not participated in the cross-border mode of services trade, as the economies of scale and scope required to achieve critical mass and global reach are beyond the capabilities of domestic or regional firms unless they are able to aggregate product and market offerings to compete globally. However, developing countries have some level of participation where they have locally owned airlines and hotel chains that are able to offer customers online booking and payment options.

In the Caribbean context, an example of cross-border services such as direct bookings in the outbound side of the accommodation sector is Sandals Resorts International (SRI). SRI is Jamaican-owned and operates all-inclusive resorts for couples, under brands such as Sandals Resorts (15 operations), Beaches Resort (3), Grand Pineapple Beach Resort (2) and Fowl Bay Resort (1 operation), as well as four private villa resorts in Jamaica. SRI employs more than 10,000 persons and has operations in several Caribbean territories: Jamaica, The Bahamas, Antigua and Barbuda, Saint Lucia, Turks and Caicos, Barbados and Grenada (Sandals Resorts International n.d.). Sandals was one of the first innovators in the all-inclusive resort model in the Caribbean and it offers a range of upscale services such as gourmet dining, high-end drinks bars, weddings and spa services, along with sport activities such as golf, scuba diving and other watersports. Sandals is a multibillion-dollar company, hosts a corporate university and a charitable foundation and has one of the strongest independent hotel brands in the world.

Another example from the Caribbean is the regional airline Caribbean Airlines, which is owned by the Government of the Republic of Trinidad and Tobago and is the largest regional carrier and Caribbean-owned airline. It operates international routes to Miami, New York, Toronto, Fort Lauderdale, Orlando and Caracas, along with a large number of routes within the Caribbean. On its international routes it competes with international carriers such as American Airlines, Delta, Air Canada and JetBlue. Caribbean Airlines has a fleet of 17 aircraft, a vacations and car rental online booking service, a loyalty programme, a cargo and small package express delivery service, and a duty-free store. It has more than 1,700 employees (Caribbean Airlines n.d.).

These two examples of how Caribbean firms are participating in segments of the tourism services value chain relate not only to Mode 1, cross-border activities. They also relate to Mode 3, 'commercial presence', because the activities involve investment in overseas operations. This illustrates cross-modal activities in services trade.

14.5.2 Mode 2: consumption abroad

Under Mode 2, 'consumption abroad' activities, there are some key examples of how Caribbean firms are participating in the GVCs on the inbound side of the business.

Analysis of the villa rentals industry in Barbados provides a useful case study of how developing countries can participate on the inbound side of the tourism GVC. Like many other services in the tourism industry, the villa rentals business in Barbados consists of collaborations between international booking agents – such as Sotheby's International (London, UK) and Luxury Resorts (Canada) – and local property management firms. The international booking agents market luxury self-catered accommodation in foreign destinations to their clientele.

These agents then partner with local property management firms to provide concierge services in Barbados. The international booking agents possess detailed knowledge about their clients' preferences and tastes. As a result, they maintain strict regulation of the quality and price of services offered in the villas. In terms of value-chain integration, it is important to note that the villa property management companies find it difficult to work with global distribution systems and online travel agencies such as Expedia and Priceline, which insist on heavily discounted rates for properties advertised on their booking websites.

The local property management firms procure service inputs from within the local market to provide an array of services, to ensure that the international visitors to the villas under their management are satisfied with their stay. The services recruited from the local market include concierge services, event planning for special occasions, wedding planning, utilities, telecommunications, general contracting services, internal maintenance, transport, tourist attractions or guided tours, medical services, internal services, and operational services.

In Barbados, one can find several destination management companies that provide services to stayover guests and cruise passengers: access to tourist attractions and experiences; organising weddings and other specialty events; facilitating business meetings, conferences and other events; on-shore services for marine shipping operations; and scheduling bookings for airline and cruise ship staff. Some Barbados-owned firms have expanded to offer services in other Caribbean jurisdictions. Three examples illustrate how Barbados companies are linked in to GVCs and export services. Sun Group Inc. was established in 1982 and operates 51 offices in 11 countries, including offices in Florida, employing more than 700 people. The Sun Group has business operations in hotels, retail travel, land and sea adventures, duty-free retail, vehicle rentals, land transport, destination management, villa rental, convenience shopping and general insurance services (Sun Group Inc. n.d.). Sunlinc also has its head office in Barbados and has grown to provide destination management services in Saint Kitts and Nevis, Antigua and Barbuda, and Grenada, along with an international marketing office in Florida (Sunlinc n.d.). Another useful example is Foster and Ince, a company which specialises in providing a range of services to cruise ships such as homeporting, shore excursions and transport. Foster and Ince has also invested abroad, with an office in Saint Lucia.

14.5.3 Mode 3: commercial presence

An interesting example of Mode 3 commercial presence is the business of in-flight catering conducted by the Barbados-based and -owned Goddards Enterprises. Goddards has 50 companies and operates in 23 countries. At the core of its business is a catering company that services airlines in 21 countries in the Caribbean and Latin America, including Uruguay, Paraguay, El Salvador, Venezuela, Ecuador, Guatemala and Colombia. It has a joint venture with LSG Chefs to offer this service to international air carriers such as British Airways, Virgin Atlantic Airways, American Airlines and Condor. The service also includes transport of food to aircraft, equipment handling, inventory management for food, procurement and aircraft laundry services. Airline in-flight catering is a very complex logistics business with issues such as turnaround times, food quality and variety, as well as weight, contributing to cost considerations. Many of the international airlines coming into the Caribbean 'double-cater', i.e. they bring enough food from the source market to cater for both their incoming and outgoing flights. Caribbean airlines flying into the US and UK

markets are not allowed to double-cater. This ultimately has an impact on the scope for expansion of local or regional catering firms in the in-flight catering GVC.

14.5.4 Mode 4: movement of natural persons

The movement of natural persons is an area of the Caribbean tourism sector for which there are very few or no data. While there are data on the employment impact of tourism in the region, there is no data capture on the number of person employed or employees of firms (i.e. contracted service suppliers) who offer services abroad. Given this, there is no information on the number of Caribbean nationals working in hotel chains abroad.

One of the key elements of the tourism industry that is worth discussing is the cruise ship sector. It is the fastest-growing area in global tourism and it has a significant impact on sending and receiving countries. The Caribbean region accounts for close to 40 per cent of cruise traffic; however, it is estimated that the employment of Caribbean nationals is no more than 1 per cent.[7] Wages for cruise ship staff are considered low, especially for manual and semiskilled labour, and thus often more attractive to workers coming from lower-wage regions of the world. However, even in specialised areas such as entertainment, the share of Caribbean employment is considered low. Efforts are being made through the Munroe College campus in Saint Lucia to train persons for careers in the cruise ship sector.

14.6 Conclusion

This chapter provides a broad overview of how GVCs in the tourism sector flow through trade in services. The analysis considers not only the tourism services (output) received by international guests as the importers, but also the services provided internationally (regionally or extraregionally) as inputs of the value chain. In particular, the chapter examines the scope for trade diversification by looking at all four modes of trade in services: cross-border, consumption abroad, commercial presence and the movement of natural persons. Thus, the chapter goes beyond traditional industry approaches, which focus on Mode 2, consumption abroad.

The chapter focuses on the experience of the Caribbean to give some perspective on the developmental impact of GVC participation. Data capture in this area is very weak, so the chapter relies on case studies to illustrate the potential impact. What is evident is that most of the activity of Caribbean-owned firms occurs in the 'inbound' side of the value chain, thereby leveraging a 'home court advantage' for tours, water sports, catamaran cruises, car rentals, dining, spa treatments, golfing, polo, etc. This highlights the linkages among service sectors and the value of relationships in the trade in services value chain.

What is also evident is that some of the more innovative Caribbean firms have displayed a capacity for industrial upgrading. Not only do these firms have a strong foothold in the home market, there are also some notable examples of these firms being able to export their services to other tourism destinations in the Caribbean and further afield. This bodes well for further diversification within the tourism sector. Many of the services traded are also cross-modal, which generates higher potential earnings and greater competitiveness. However, some higher value-added services continue to be outsourced, among them shipping services, procurement, advertisement and executive chefs.

Finally, the main factors that constrain the Caribbean from greater participation in tourism GVCs relate to governance issues. For example, many Caribbean-based destination management companies are heavily dependent

on North American and European airlines and cruise ships. An example of an uneven playing field, in this respect is the unfair competition in in-flight catering services, since Caribbean airlines are unable to double-cater in the USA and in the UK. Another issue is that it is not possible for rental estate companies to seal a deal with global distribution systems, since the conditions these systems require cannot be met by the villas because of some of their intrinsic characteristics.

All told, what can be concluded from the analysis is that the trade in services offers much scope for industrial deepening in the most tourism-dependent region in the world. Additionally, it illustrates that small island developing states can generate the capabilities to win market share in key aspects of the GVC. It is also noteworthy that the promotion of this sector would have significant spillovers in other sectors of the economy.

Notes

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4 This Chapter is based on the study 'Services in the Tourism (Accommodation/Hotel) Value Chain in Barbados' prepared for the Organization of American States (OAS), with the financial support of the 2012-2015 OAS-Canada Cooperation Plan.
5 There are, however, other forms of Mode 2 services trade than tourism. These would include, for example, students from one country going to study in a foreign location and consuming education services under Mode 2. Another form would be the repair of aircraft or other types of vehicles in foreign locations. Tourism and travel are important for Mode 2, but they are not the only type of services trade in this category.
6 Expedia owns Hotwire, Travelocity, Hotels.com, Orbitz Worldwide, Trivago, HomeAway and CarRentals.com, along with several other brands (Expedia Inc. n.d.).
7 For further information on the cruise industry, see Cruise Lines International Association (2016).

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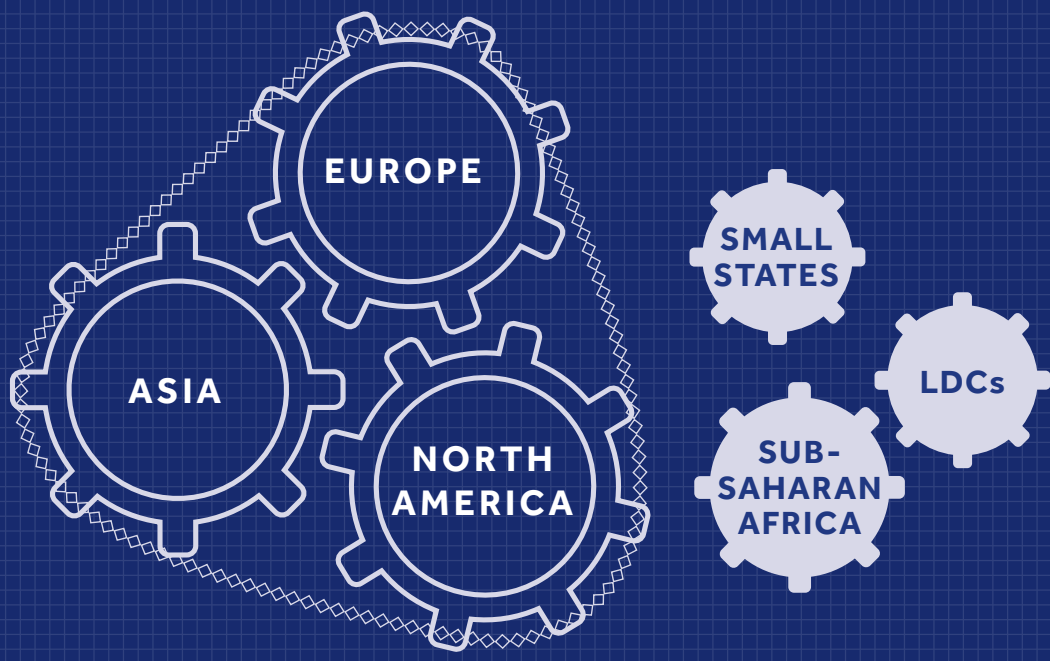
Section 4: Policy Perspectives

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Chapter 15

Understanding Shifts in Trade in Value Added: The Relative Position of the Commonwealth Caribbean and Pacific

Jodie Keane and Roland Baimbill-Johnson

Abstract[1]

This chapter presents data on global and regional value chain participation in the Caribbean and the Pacific by analysing trade in value added at the regional, country and sectoral level. It presents contrasting experiences regarding participation in global value chains as proxied by shifts over time in domestic and foreign value added. It also presents new data on intra-regional participation as indicated by foreign value added sourced on an intra-regional basis. Although increasing intra-regional value development is apparent across both regions, it is strongest in the Pacific. Although not conclusive, this snapshot provides us with evidence regarding current participation and, most importantly, changes over time at both the aggregate and the sectoral level.

15.1 Understanding shifts in value added trade

The Eora Multi-Regional Input–Output database (Eora-MRIO) represents a good effort to compile and harmonise input–output tables from several countries using different sectoral classifications. It is one of the major data sources used to calculate trade in value added. Although, in the process of preparing this dataset, some assumptions and adjustments to the data have been made (Kowalski et al., 2015), it has the best country coverage in terms of availability across Commonwealth members.

However, in using this database, it is important to understand some of the caveats involved. These include the fact that, although in aggregate terms the Eora-MRIO can help in calculating the value added content of exports and other production variables, when the analysis is performed at disaggregated levels some inconsistencies may appear. Despite these challenges, this database is one of the best available data sources at the current time and is therefore taken at face-value.

The distinction between intermediates and final products blurs in the summation of overall trade in value added, but it is logical to assume that an increase in foreign value added equates to a greater use of imported intermediates (Cheng et al., 2015). The key terms referred to in this analysis are:

1. **Foreign value added** that a country further exports as a proportion of its total exports, called 'backward' integration;
2. **Domestic value added** that the country in question exports, which is then further exported by the partner country, known as 'forward integration'.

To these two types, we add '**regional value added**'. This relates to the foreign value added that is sourced from regional rather than global trade partners.

Invariably, the data are extremely sensitive to the size of economies. Larger economies will present smaller participation indexes, as indicated by proportions of foreign value added. This is simply because of their more diversified productive structure, which permits the domestic sourcing of a greater range of products. In addition, the greater availability of workers, land and resources necessarily implies a higher proportion of domestic value added in production.

The reported figures for trade in value added may differ substantially from those associated with gross merchandise trade. This is because not only is the value of imported intermediate goods used in production omitted but also, as trade in value added is decomposed, the services sector gains in weight once its overall contribution is acknowledged. Overall, 26 'sectors' are included in the database, but for the purposes of our analysis we exclude some of these, such as 're-export and re-import' as well as 'others'. The inclusion of 'private households' features gives the important role of remittances for many Commonwealth members.

The calculation of trade in value added supposes the unbundling of production and trade into its basic constituent parts. This implies identification of the origin of the value added embedded in the production or trade. The distinction between intermediates and final products blurs in the trade in value added. Instead, it is more appropriate to talk about products being made by value added from multiple origins.

Given this, it is important to understand that trade in value added figures may differ substantially from those associated with gross trade. One particular and important source of differences between the structures of gross and value added trade is the presence of the services sector. As trade in value added decomposes production to its basic components, the service sector gains weight once its contribution is acknowledged. The use of input–output tables is to distinguish between trade in value added between domestic and foreign sources. Value added generated in local or foreign transport or financial services, for example, is embedded in both exported services and goods. Consequently, the structure of trade in value added tends to be more similar to the structure of domestic production than it is to typical trade. This is precisely one of the main objectives of the exercise undertaken to calculate trade in value added—that is, to address the imbalance between the measurement of gross trade compared with the value added data used to measure gross domestic product.

As we have mentioned, there are not many reliable sources on trade in value added. Very often, it is necessary to calculate this using multiregional input-output tables. That which we are using in this report, the Eora-MRIO, contains data for Commonwealth Pacific and Caribbean members. It is the changes over time in these indicators that are most revealing. The following sections thus present disaggregated and country-specific data for the Caribbean and Pacific regions, and countries within these. The following sub-sections briefly summarise the main findings for each region and countries within these.

15.2 Caribbean: key findings

- There was a consistent increase in the proportion of foreign value added embedded within the exports of Barbados, Belize, Guyana and Jamaica between 1995 and 2000.
- The main sectors that experienced an increase in foreign value added in exports (2000–12) were transport, food and beverages, post and

telecommunications, private households and maintenance and repair.

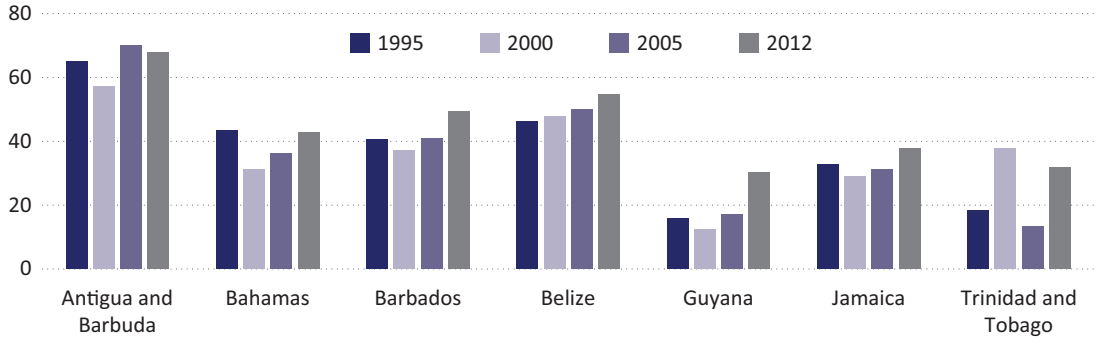
- The main sectors that experienced a decrease in foreign value added (2000–12) were mining and quarrying, electrical and machinery, textiles and apparel, fishing and public administration.
- This suggests declining participation in archetypal global value chain (GVC) sectors, including light manufacturing and processed fisheries.
- A consistent increase in domestic value added in exports occurred in Antigua and Barbuda, The Bahamas and Trinidad and Tobago between 1995 and 2012.
- However, domestic value added by Caribbean countries as a proportion of global trade in value added (2000–12) decreased, except in the case of Trinidad and Tobago (driven by the dominance of petrochemical exports).
- Global value added to exports (through imports) increased between 2000 and 2012 by almost 10 percentage points, with a slight decrease in regional sourcing of value added from other Caribbean partners (0.02 per cent).
- However, individual countries in the region (Guyana, Barbados and Jamaica) increased sourcing of regional value added, from Trinidad and Tobago.

15.2.1 Shifts in value added: aggregate level

Figure 15.1 presents the results of an analysis of changes in the proportion of foreign value added over time between 1995 and 2012 in Caribbean countries. There has been a consistent increase in the proportion of foreign value added embedded within the exports of Barbados, Belize, Guyana and Jamaica. In the case of Antigua and Barbuda, The Bahamas and Trinidad and Tobago, there was an increase in the proportion of domestic value added embedded in exports between 1995 and 2012.

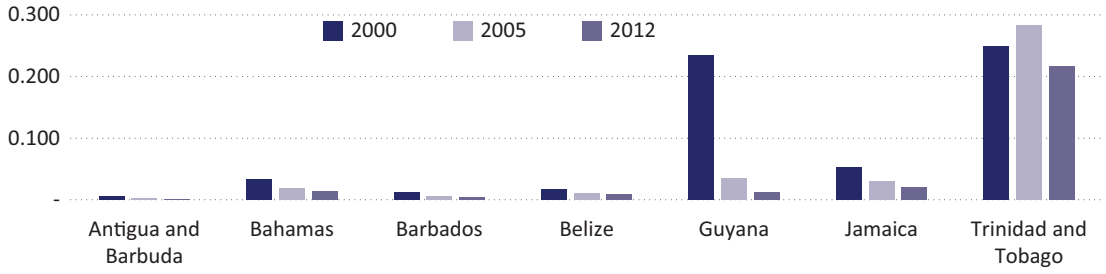
In terms of the contribution of domestic value added by the Caribbean to global trade in value added (Figure 15.2), the proportion Trinidad and Tobago contributed to other countries' exports is extremely high (driven by the dominance of petrochemical exports). There have clearly been decreases in the cases of the other countries, including The Bahamas, Barbados, Belize and Jamaica, as well as, more recently, Guyana.

Figure 15.1 Proportion of foreign value added (%) embedded in exports (backwards participation index)



Source: Adapted from Mendez-Parra (2015) based on Eora-MRIO.

Figure 15.2 Caribbean countries' contribution of value added to world exports (%)



Source: Adapted from Mendez-Parra (2015) based on Eora-MRIO.

15.2.2 Shifts in value added: regional picture

Table 1 presents the regional contribution of value added to exports in 2000 and 2012. The main findings can be summarised as follows:

- Between 2000 and 2012, the sourcing of global value added to exports (through imports) increased on average for the region by almost 10 percentage points; there was a slight reduction in the regional

Table 15.1 Origin of value added in exports in 2000 and 2012 (%)

	Antigua and Barbuda	The Bahamas	Barbados	Belize	Guyana	Jamaica	Trinidad and Tobago	Average
2000								
Antigua and Barbuda	42.9	0.0	0.0	0.0	0.0	0.0	0.0	6.13
The Bahamas	0.1	68.9	0.0	0.0	0.0	0.1	0.0	9.87
Barbados	0.2	0.0	62.8	0.1	0.1	0.0	0.0	9.03
Belize	0.0	0.0	0.0	52.0	0.0	0.0	0.0	7.43
Guyana	0.2	0.0	0.2	0.1	87.8	0.2	0.3	12.69
Jamaica	0.1	0.0	0.2	0.1	0.1	70.9	0.1	10.21
Trinidad and Tobago	0.3	0.0	0.5	0.1	0.8	0.4	62.1	9.17
Rest of the world	56.2	31.0	36.3	47.5	11.3	28.3	37.4	35.43
Total Caribbean	*0.9*	*0.11*	*0.89*	*0.45*	*0.92*	*0.79*	*0.5*	0.65
2012								
Antigua and Barbuda	32.3	0.0	0.0	0.0	0.0	0.0	0.0	4.61
The Bahamas	0.0	57.1	0.0	0.0	0.0	0.1	0.0	8.17
Barbados	0.2	0.0	50.6	0.0	0.1	0.0	0.0	7.27
Belize	0.0	0.0	0.0	45.2	0.0	0.1	0.0	6.47
Guyana	0.1	0.0	0.1	0.0	69.6	0.1	0.0	9.99
Jamaica	0.1	0.0	0.2	0.1	0.0	62.3	0.1	8.97
Trinidad and Tobago	0.2	0.1	0.7	0.1	1.2	0.6	68.1	10.14
Rest of the world	67.1	42.8	48.3	54.5	29.0	36.8	31.8	44.33
Total Caribbean	*0.6*	*0.1*	*1.0*	*0.3*	*1.3*	*0.9*	*0.2*	0.63

Source: Adapted from Mendez-Parra (2015) based on Eora-MRIO.

sourcing of value added in the Caribbean (0.02 per cent).

- However, this average result can be contrasted with country-specific results for Barbados, Guyana and Jamaica, which all increased their sourcing of regional value added, from Trinidad and Tobago (with Belize also featuring as an increasing source of intra-regional value added for Jamaica).
- Generally, for the region, the increase in global sourcing of value added has resulted in a reduction in domestic value added, as opposed to the replacement of regional value added in exports.
- Trinidad and Tobago was the only country in the region that increased domestic value added to exports between 2000 and 2012, with a resultant decrease in the sourcing of regional and global value added.

15.2.3 Shifts in value added: sectoral level

Table 15.2 presents the sectoral breakdown of foreign value added embedded in exports for the Commonwealth Caribbean. The main results for the region as a whole (average percentage point change) in terms of where the largest increases in foreign value added[2] have been embedded in exports are as follows:

- transport (25.2);
- food and beverages (14.6);
- post and telecommunications (11.8);
- private households (11.7);[3] and
- maintenance and repair (11.4).

For each individual country in the region, the sectors where the major increases in foreign value added have accrued are as follows:

- **Antigua and Barbuda:** private households (3.1), maintenance and repair (2.4) and education, health and other services (1.6);
- **The Bahamas:** financial intermediation and business services (2.5), petrochemical and non-metallic mineral products (1.9) and education, health and other services (1.6);
- **Barbados:** transport (19), education, health and other services (3.3) and post and telecommunications (2.50);
- **Belize:** private households (3.6), maintenance and repair (3.2) and education, health and other services (2.1);
- **Guyana:** food and beverages (16.5), mining and quarrying (16.5) and agriculture (5);
- **Jamaica:** transport (5.3), food and beverages (5) and electrical and machinery (1.7);
- **Trinidad and Tobago:** petroleum, chemical and non-metallic mineral products (11.8), education, health and other services (4.5) and post and telecommunications (3.2).

In comparison, the main sectors within the region with decreases in foreign value added (and hence where domestic value added may have increased) are as follows:

- mining and quarrying (–31.1);
- electrical and machinery (–21.5);
- textiles and apparel (–16.8);
- fishing (–12.3); and
- public administration (–9.7).

For each individual country within the region, the sectors where the major decreases in foreign value added have accrued (and hence where domestic value added may have increased) are as follows:

- **Antigua and Barbuda:** Mining and quarrying (–6.7), fishing (–1.9) and other manufacturing (–1.1);
- **The Bahamas:** Fishing (–7.8), transport equipment (–4.5) and agriculture (–2.4);
- **Barbados:** electrical and machinery (–17.1), food and beverages (–3.1) and textiles and apparel (–3.1);

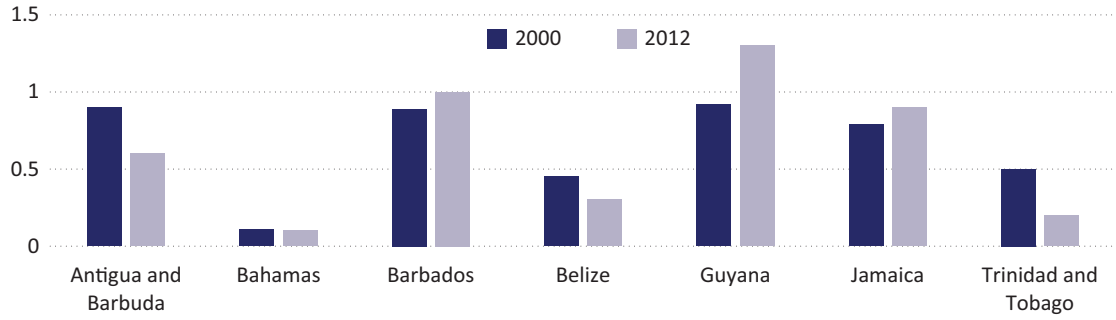
Table 15.2 Foreign value added in exports (percentage point change) between 2000 and 2012

	Antigua and Barbuda	The Bahamas	Barbados	Belize	Guyana	Jamaica	Trinidad and Tobago
Agriculture	–0.7	–2.4	–0.1	2	5	–1.4	0
Fishing	–1.9	–7.8	–1.5	–0.1	0.3	–1.4	0.1
Mining and quarrying	–6.7	0.5	0.4	0	7.2	–0.4	–32.1
Food and beverages	0.6	1.4	–3.1	–7.6	16.5	5	1.8
Textiles and apparel	0.3	0.2	–3.1	–5.6	0.9	–9.1	–0.4
Wood and paper	–0.7	0.9	–3	–1.2	1.9	0.4	–0.3
Petroleum, chemical and non-metallic mineral products	1	1.9	1.9	0.8	–2	–4.4	11.8
Metal products	0.8	0	–2	–0.9	3.2	1.1	1.1
Electrical and machinery	–0.8	0.9	–17.1	–4	–1.1	1.7	–1.1
Transport equipment	–0.3	–4.5	–1.3	–1.1	–1.8	1	–0.8
Other manufacturing	–1.1	–0.6	–0.5	–0.2	–0.1	–0.2	–0.4
Recycling	–0.9	0	–0.7	–0.6	0.6	–0.8	0.1
Electricity, gas and water	–0.8	0.3	–0.2	–0.4	–2.3	–0.1	–0.1
Construction	0.5	0.7	1.1	1.9	–1.7	0.6	0.5
Maintenance and repair	2.4	0.6	1.1	3.2	3.4	0.4	0.3
Wholesale trade	n/a	0.5	n/a	n/a	n/a	n/a	n/a
Retail trade	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Hotels and restaurants	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Transport	n/a	1.2	19	2.4	–2.7	5.3	n/a
Post and telecommunications	1	0.9	2.5	1.9	1.4	0.9	3.2
Financial intermediation and business activities	–0.4	2.5	–0.3	–0.4	–8.5	–0.5	–0.4
Public administration	1.5	1.3	0.7	1.4	–14.8	0.3	–0.1
Education, health and other services	1.6	1.6	3.3	2.1	–5.3	1.2	4.5
Private households	3.1	0.5	1	3.6	2.9	0.4	0.2
Others	–0.9	–0.1	–0.4	–0.4	–0.1	–0.1	–0.1
Re-export and re-import	3	0	0.1	3.7	9.2	0.5	0.2

Source: Eora-MRIO.

- **Belize:** food and beverages (–7.6), textiles and apparel (–5.6) and wood and paper (–1.2);
- **Guyana:** public administration (–14.8), financial intermediation and business activities (–8.5) and education, health and other services (–5.3);
- **Jamaica:** textiles and apparel (–9.1), petroleum, chemical and non-metallic mineral products (–4.4) and agriculture and fishing (both –1.4);
- **Trinidad and Tobago:** mining and quarrying (–32.1), electrical and

Figure 15.3 Proportion of regional value added in exports (%) in 2000 and 2012



Note: Percentage point change between 2000 and 2012.
Source: Data from Eora-MRIO.

machinery (–1.1) and transport equipment (–0.8).

15.3 Pacific: key findings

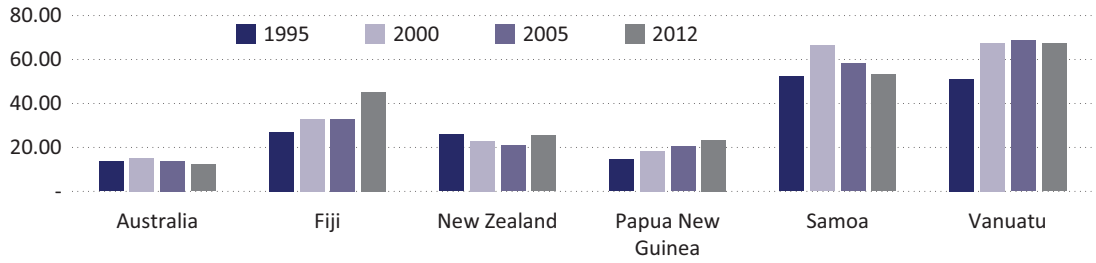
- Between 1995 and 2012, Fiji and Papua New Guinea increased the proportion of foreign value added in their exports. Australia and, to a much lesser extent, New Zealand, by contrast, experienced a decrease, and the proportion of domestic value added in their exports increased.
- Globally, the value added contribution of Australia to world exports has increased dramatically in recent years, while that of New Zealand has decreased.
- Overall, the regional contribution of value added to global exports has increased, from around 3 per cent (2000) to 7 per cent (2012), except in the case of Australia.
- Each of the individual countries of the Pacific increased their sourcing of value added from Australia between 2000 and 2012.
- The sectors with the largest increases in foreign value added in exports were agriculture (4.5), mining and quarrying (2.7), post and telecommunications (1.7), hotels and restaurants (1.5) and construction (0.8).
- The sectors with the largest decreases in foreign value added (and hence where domestic value added may have increased) were financial intermediation and business services (–7.1), petroleum, chemical and non-metallic mineral products (–2.2), education, health and other services (–0.9), wood and paper (–0.5) and retail trade (–0.5).

15.3.1 Shifts in value added: Aggregate level

Figure 15.4 presents the results of an analysis of changes in the proportion of foreign value added over time between 1995 and 2012 for Pacific countries. Fiji and Papua New Guinea increased the proportion of foreign value added in their exports over this period. Australia and, to a much lesser extent, New Zealand, by contrast, saw a reduction in the proportion of foreign value added in their exports, which indicates an increase in domestic value added.[4] In the case of the smaller economies of Samoa and Vanuatu, almost 70 per cent of the value added embedded in exports is imported (foreign value added).

Figure 15.5 presents the contributions of the economically smaller members of the Pacific. These results indicate that, in 2012, world exports included slightly more than 0.02 per cent of value added generated in Papua New Guinea—a country that consistently

Figure 15.4 Proportion of foreign value added embedded in exports (backwards participation index)



Source: Adapted from Mendez-Parra (2015) based on Eora-MRIO.

increased its contribution of value added to world exports over the period from 2000 to 2012. In comparison, the contribution of the other Pacific island countries—Fiji, Samoa and Vanuatu—increased between 2000 and 2005 but then decreased in 2012.

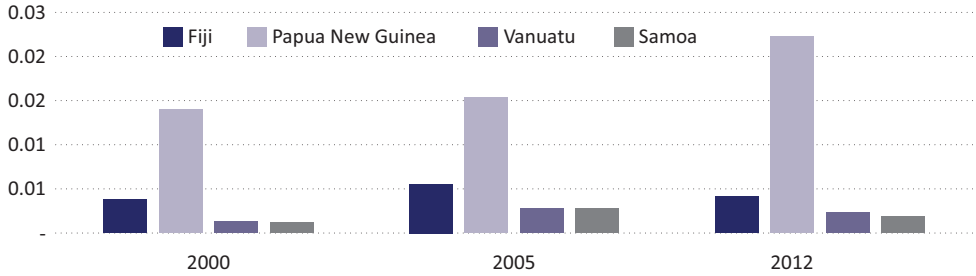
Figure 15.6 analyses the value added contribution of Australia and New Zealand to world exports. It is clear that Australia's contribution has increased dramatically in recent years, whereas that of New Zealand has decreased. This is explained by the rise in the price of minerals observed in the past decade but also by the use of other Australian inputs into global exports.

15.3.2 Shifts in value added: Regional picture

Table 15.3 presents the origin of value added from within the region, as well as the rest of the world, in 2000 and 2012. Looking at Australia, the domestic contribution of value added to exports increased between 2000 (86 per cent) and 2012 (88 per cent). This process reduced the contribution of value added to exports from other regional partners in the Pacific, as well as the rest of the world. Overall, the regional contribution of value added has increased to a greater extent compared with other global partners, from around 3 per cent (2000) to 7 per cent (2012).

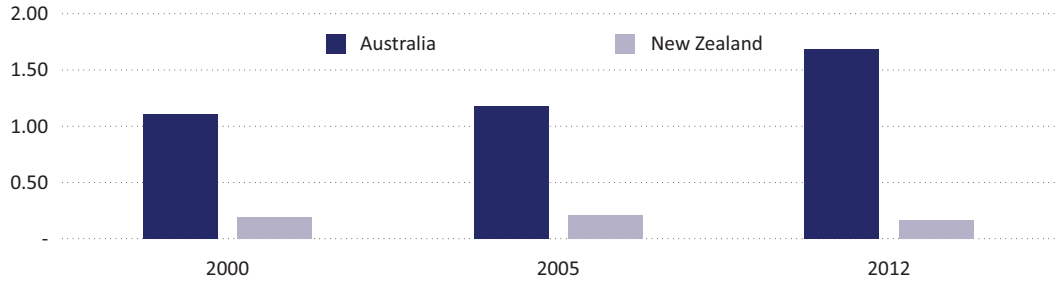
Each of the individual countries of the Pacific increased its regional sourcing of value added, with the exception of Australia (Table 15.4). While Samoa increased its domestic value added as well as foreign value added from the Pacific region, the contribution from the rest of the world decreased. Fiji, on the other hand, experienced a decrease in domestic value added to exports and an increase in foreign value added, from the rest of the world as well as from other Pacific countries (Figure 15.7).

Figure 15.5 Pacific island countries' contribution of value added to world exports (%)



Source: Adapted from Mendez-Parra (2015) based on Eora-MRIO.

Figure 15.6 Australia and New Zealand's contribution of value added to world exports (%)



Source: Adapted from Mendez-Parra (2015) based on Eora-MRIO.

15.3.3 Shifts in value added: Sectoral level

Table 15.5 presents the sectoral breakdown of foreign value added embedded in exports for the Commonwealth Pacific. The main results for the region as a whole (average percentage point change) in terms of where the largest increases in foreign value added[5] have been embedded in exports are as follows:

- agriculture (4.5);
- mining and quarrying (2.7);
- post and telecommunications (1.7);
- hotels and restaurants (1.5); and
- construction (0.8).

Table 15.3 Origin of value added in exports in 2000 and 2012 (%)

	Australia	Fiji	New Zealand	Papua New Guinea	Samoa	Vanuatu	Rest of the world	Average
2000								
Australia	85.66	3.97	4.42	3.26	1.37	2.38	1.11	14.60
Fiji	0.01	69.52	0.01	0.02	0.08	0.11	0	9.96
New Zealand	0.68	2.15	77.67	0.41	0.67	0.93	0.19	11.81
Papua New Guinea	0.07	0.02	0.02	83.7	0.06	0.06	0.01	11.99
Samoa	0	0.01	0	0	36.02	0.03	0	5.15
Vanuatu	0	0.01	0	0	0.03	36.12	0	5.17
Rest of the world	13.57	24.32	17.87	12.6	61.77	60.38	98.68	41.31
Total Pacific	*0.77*	*6.16*	*4.46*	*3.7*	*2.21*	*3.5*	*1.32*	3.16
2012								
Australia	88.15	9.48	7.57	7.59	7.73	8.4	1.69	18.66
Fiji	0.01	57.65	0.04	0.02	0	0.08	0	8.26
New Zealand	0.48	3.51	74.84	0.49	0.25	0.52	0.17	11.47
Papua New Guinea	0.07	0.03	0.04	78.08	0.03	0.05	0.02	11.19
Samoa	0	0.01	0	0	47.57	0.02	0	6.80
Vanuatu	0	0.01	0	0	0.01	35.22	0	5.03
Rest of the world	11.29	29.3	17.51	13.81	44.41	55.71	98.12	38.59
Total Pacific	*0.57*	*13.05*	*7.65*	*8.11*	*8.02*	*9.07*	*1.88*	6.91

Source: Adapted from Mendez-Parra (2015) based on Eora-MRIO.

Table 15.4 Shifts in regional value added

	Australia	Fiji	New Zealand	Papua New Guinea	Samoa	Vanuatu	Rest of the World	Average
Percentage point change 2000 and 2012								
Australia	2.49	5.51	3.15	4.33	6.36	6.02	0.58	4.06
Fiji	0	–11.87	0.03	0	–0.08	–0.03	0	–1.71
New Zealand	–0.2	1.36	–2.83	0.08	–0.42	–0.41	–0.02	–0.35
Papua New Guinea	0	0.01	0.02	–5.62	–0.03	–0.01	0.01	–0.80
Samoa	0	0	0	0	11.55	–0.01	0	1.65
Vanuatu	0	0	0	0	–0.02	–0.9	0	–0.13
Rest of the world	–2.28	4.98	–0.36	1.21	–17.36	–4.67	–0.56	–2.72
Total Pacific	*–0.2*	*6.89*	*3.19*	*4.41*	*5.81*	*5.57*	*0.56*	*3.75*

Source: Adapted from Mendez-Parra (2015) based on Eora-MRIO.

For each individual country in the region, the sectors where the major increases in foreign value added have accrued are as follows:

- **Australia:** mining and quarrying (10.3), metal products (2.2), electrical and machinery (2.1), hotels and restaurants (0.7) and textiles and apparel (0.5);
- **Fiji:** agriculture (6.8), post and telecommunications (2.9), transport (0.2), public administration (0.9) and fishing (0.9);
- **New Zealand:** food and beverages (3.4), wood and paper (1.6), agriculture (1.3), financial intermediation and business services (1.3) and metal products (0.4);
- **Papua New Guinea:** agriculture (8.3), mining and quarrying (7.2), electricity, gas and water (0.9), construction (0.5) and fishing (0.3);
- **Samoa:** construction (5.9), post and telecommunications (5.1), hotels and

Figure 15.7 Proportion of regional value added in exports (percentage point change) between 2000 and 2012

Note: Percentage point change between 2000 and 2012.
Source: Data from Eora-MRIO.

Table 15.5 Shifts in value added in exports between 2000 and 2012 by sector (percentage point change each year)

	Australia	Fiji	New Zealand	Papua New Guinea	Samoa	Vanuatu
Agriculture	–1	6.8	1.3	8.3	0.5	12.4
Fishing	0	0.9	0.2	0.3	0.2	1.6
Mining and quarrying	10.3	–0.6	–0.3	7.2	0	–0.4
Food and beverages	–0.2	0	3.4	–0.5	–1.1	n/a
Textiles and apparel	0.5	0	–0.9	–0.2	–0.5	–0.5
Wood and paper	–0.2	–1.6	1.6	–0.5	–0.9	–1.1
Petroleum, chemical and non-metallic mineral products	–0.3	–4.9	–0.5	–2.1	–1.3	–3.8
Metal products	2.2	0.3	0.4	–1.2	–0.4	–0.8
Electrical and machinery	2.1	0	–1.9	–0.1	–0.1	–1.2
Transport equipment	0.1	0.1	–0.5	0	–0.7	0.5
Other manufacturing	0.1	0.1	0	–0.1	–0.4	–0.4
Recycling	0	0	0.1	0	–0.1	0
Electricity, gas and water	–0.2	–1.7	0.1	0.9	–0.2	–1.3
Construction	–0.1	–0.3	–0.7	0.5	5.9	–0.8
Maintenance and repair	–0.2	0.5	n/a	0	1	0.7
Wholesale trade	–1.3	0.2	–2	–1	2.4	1.8
Retail trade	–5	n/a	n/a	n/a	n/a	1.9
Hotels and restaurants	0.7	1.7	n/a	0.2	2.7	3.6
Transport	0	2	1	–0.7	n/a	0.2
Post and telecommunications	–0.8	2.9	–0.2	–1	5.1	4.2
Financial intermediation and business activities	–5.3	–6.9	1.3	–9.3	–9.2	–13.1
Public administration	–0.5	0.9	–1.1	0	–0.9	–0.3
Education, health and other services	–0.9	0.1	–1	–0.5	–2	–1.1
Private households	0	0.2	0	0	–0.1	–0.1
Others	0.1	–0.5	–0.2	–0.3	–0.4	–0.5
Re-export and re-import	0	0	0	0	0	0

Source: Adapted from Mendez-Parra (2015) based on Eora-MRIO.

restaurants (2.7), wholesale trade (2.4) and agriculture (0.5);

- **Vanuatu:** agriculture (12.4), post and telecommunications (4.2), hotels and restaurants (3.6), retail trade (1.9) and wholesale trade (1.8).

In comparison, the main sectors within the region with decreases in foreign value added (and hence where domestic value added may have increased) are as follows:

- financial intermediation and business services (–7.1);

- petroleum, chemical and non-metallic mineral products (–2.2);
- education, health and other services (–0.9);
- wood and paper (–0.5); and
- retail trade (–0.5).

For each individual country within the region, the sectors where the major decreases in foreign value added have accrued (and hence where domestic value added may have increased) are as follows:

- **Australia:** financial intermediation and business activities (–5.3), retail trade (–50), wholesale trade (–1.3), agriculture (–1) and education, health and other services (–0.9).
- **Fiji:** financial intermediation and business activities (–6.9), petroleum, chemical and non-metallic mineral products (–4.9), electricity, gas and water (–1.7), wood and paper (–1.6) and mining and quarrying (–0.6);
- **New Zealand:** wholesale trade (–2), electrical and machinery (–1.9), public administration (–1.1), education, health and other services (–1) and textiles and apparel (–0.9);
- **Papua New Guinea:** financial intermediation and business activities (–9.3), petroleum, chemical and non-metallic mineral products (–2.1), metal products (–1.2), post and telecommunications (–1) and transport (–0.7);
- **Samoa:** financial intermediation and business activities (–9.2), education, health and other services (–2), petroleum, chemical and non-metallic mineral products (–1.3), food and beverages (–1.1) and both wood and paper and public administration (–0.9);
- **Vanuatu:** financial intermediation and business activities (–13.1), petroleum, chemical and non-metallic mineral products (–3.8), electricity, gas and water (–1.3), electrical and machinery (–1.2) and each of the following: wood and paper and education, health and other services (–1.1).

15.4 Concluding remarks

This overview of what the available evidence suggests regarding the nature and position of GVC engagement in the Caribbean and Pacific regions is not meant to be exhaustive. Rather, it is intended to be indicative of where additional research endeavours are required. Analysis of the shifts over time in terms of domestic and foreign value added must be considered within the broader context of institutional and policy frameworks, as well as global developments. Major omissions from this descriptive analysis relate to policy measures such as goods, services and investment restrictiveness. We have not explored in detail how the trends over time described in the previous sub-sections have been translated into firm-level performance, or the interaction with human capital and technological capability indicators.

These aspects, in addition to the aforementioned policy restrictiveness indicators, relate to the trade-investment-services-intellectual property nexus described by Baldwin (2012). Within this evolving nexus, the imperative of adapting to the rise of intermediate rather than final goods trade; addressing investment shortfalls in facilities and training; overcoming barriers to infrastructure services; and boosting flows of knowledge and managerial know-how between countries are underscored.

As well as obtaining information on the characteristics and types of firms involved in global trade within GVCs (types of products produced; level of technological sophistication; nature of the organisational structure between firms), it is important also to consider the broader institutional context within which firms trade and interact. This includes in relation to organisations designed to

facilitate these networking processes, such as business associations. These interactions then subsequently need to be understood in relation to the interface and interaction with institutions and frameworks established in view of public policy considerations.

From this perspective, interactions between public and private sector actors need to be contextualised regarding the advancement of technological progress and broader societal learning, as part of a broader innovation system. A more micro-level analysis of value addition processes must necessarily accompany the more macro-level analyses of trade in value added, derived from input–output tables, and situated within a broader institutional framework and national innovation system.

Notes

1 The findings for the Caribbean and Pacific are based on analysis of Eora Multi-Regional Input–Output (MRIO) data and background papers prepared by Mendez-Parra (2016).
2 Excluding 'others' and 're-import and re-export'.
3 Remittances received.
4 In the case of New Zealand, these may be associated with agricultural products (i.e. feedstuff), which saw a sharp increase in their prices between 2005 and 2012. For Australia, these results may reflect the major price increases experienced for some types of mineral and agricultural commodities between 2000 and 2012.
5 Excluding 'others' and 're-import and re-export'.

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Chapter 16

The End of Industrial Policy? Why a Productive-Sector Policy Agenda Better Meets the Needs of Sustainable Income Growth

Raphael Kaplinsky[1]

Abstract

Sustainable income growth depends on the capacity to generate and appropriate economic rents. The traditional literature on achieving sustainable growth and development argued that this could be achieved through a shift in the structure of the economy to high-productivity manufacturing, from low-productivity agriculture and non-traded services. This orthodoxy, however, is challenged when global trade is organised within GVCs. This is because the evolving structure of GVCs means that high rents are no longer confined to the manufacturing sector. Moreover, many activities in the manufacturing sector are characterised by intense competition and low and declining economic rents. Hence, a transition is required from a narrow traditional industrial policy to a modern productive sector policy, which addresses rent generation and appropriation within and across all sectors. The challenge is for countries to develop a dynamic capability-building path in response to global competition that allows them to improve their position within the GVCs. The nature of this capability building depends on whether the country exports into a vertically specialised value chain (involving the subcontracted production of intermediates and assembly across borders, much of it occurring in parallel) or an additive value chain (in which processing takes place in sequential steps).

16.1 Introduction

The increasing globalisation of the world economy after Second World War was driven by a systematic drive by the major economic powers to reduce barriers to both trade and the flow of investment (but less so labour) across national borders. At the same time, and explicitly linked to the pursuit of trade liberalisation, the legitimacy of state intervention to create and shape markets in domestic jurisdictions was challenged. For many economies, particularly those experiencing the structural adjustment 'remedy', industrial policy was reduced to trade policy, and trade policy was reduced to trade liberalisation.

However, the atmosphere has changed. Industrial policy is now back on the policy agenda. It is increasingly recognised that the state has a role to play not just in fixing market failures, but also in making and shaping market structures (Mazzucato 2016). In the USA, across much of Europe, in the Organisation for Economic Co-operation and Development (OECD) and in many of the multilateral agencies, it is no longer anathema to talk about the positive constructivist role of the state (OECD 2014). At the same time, there has been a fundamental change in the structure of industrial production, as global production and trade have increasingly extended through

the medium of global value chains (GVCs). Therefore, notwithstanding the renewed legitimacy of industrial policy, it is necessary to examine what this means for contemporary patterns of global trade.

This chapter considers the nature of an optimal policy framework designed to deliver sustainable income growth in an increasingly globalising world. Of course, sustainable income growth in the context of trade openness is only one objective of industrial policy. Other important objectives include employment creation (as a mechanism for spreading gains from industrialisation).[2] In view of the ascendency of GVCs, there is a need for a transition from industrial policy to productive-sector policy.

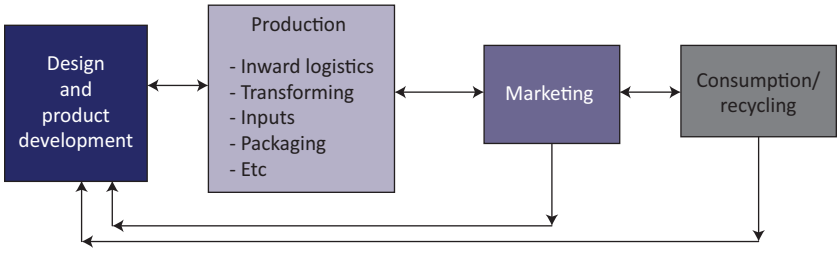
16.2 The increasingly prominent role of global value chains in outward-oriented industrialisation

Global value chains have increasingly come to dominate global trade, affecting virtually all sectors and all economies. The value chain comprises the full range of activities that are required to bring a product or service from conception through the various phases of production (involving a combination of physical transformation and the input of various producer services) to delivery to final consumers and disposal after use (see Figure 16.1). Production per se is only one of a number of value-added links. This applies as much to the manufacturing sector (in which physical inputs are transformed into physical outputs) as it does to the service and agricultural sectors, and government services.

The origins of GVCs are to be found in the adoption of core-competence business strategies, a process that gathered momentum from the early-1970s. This involved firms concentrating on their unique competences, which were valued in the marketplace and were difficult to copy. Activities that were of low value or easily copied were outsourced: backwards to suppliers and forwards to user firms. Initially, this outsourcing involved near-sourcing, but – as global trade barriers fell, containerisation developed in shipping, and information technology (IT) allowed for enhanced digital communication – it rapidly extended to global outsourcing.

Recognising the growing significance of GVCs in trade, the OECD and the World Trade Organization (WTO) have identified the proportion of intermediates in global trade as an indicator of GVC trade. By 2012, more than two-thirds of global exports comprised intermediate products and services (OECD 2014). The WTO estimates that 28 per cent (US$5 trillion out of US$19 trillion) of global trade in 2010 involved double counting; that is, the value of intermediate products traded directly across national borders, as well as indirectly and subsequently incorporated into final products (UNCTAD 2013). For example, the screen in a mobile phone assembled in China is counted both as an export from Korea to China and

Figure 16.1 Four links in a simple value chain



Source: Author.

(when incorporated in the assembled phone) as an export from China to the rest of the world.

16.3 Two broad families of global value chains

There is great variety in the character of value chains. One key distinction is that which arises between 'vertically specialised GVCs' and 'additive GVCs' (Kaplinsky and Morris 2015). Vertically specialised chains result from the fracturing of value chains as firms specialise increasingly in their core competences and outsource non-core activities. This leads to the fragmentation and slicing up of production into a myriad of subprocesses. In vertically fragmented GVCs, these activities can be undertaken in parallel – that is, at the same time – and, since there is little processing loss in production and no degradation of inputs, there is no intrinsic need for the various stages to be co-located. They thus lend themselves to global dispersion.

The well-known example of the Apple iPhone 4 illustrates this well (Xing and Detert 2010). Each device retailed at just under US$500 in the USA. The phones were exported from China – 'made in China' – at a unit price of US$179. However, the value added in China was only US$6.50, with the balance made up of imported components and service payments to Apple in the USA. This reflects a production chain in which parts are sourced from all over the world, assembled under Apple's supervision in China, and then branded and marketed in the USA and other final markets.

Vertically specialised GVCs predominate in the manufacturing sector, where final products are assembled using a variety of components (more than 3,000 in the case of an automobile and 15,000 in the case of an aircraft engine). A reconfiguration of the way in which services are produced also means that these too can comprise a range of 'assembled' activities. For example, call centres are part of a much larger, fragmented chain of production, distribution and after-sales support. This fracturing and global dispersion of services is also increasingly evidenced in higher-knowledge content activities such as in the legal, architectural and health sectors.

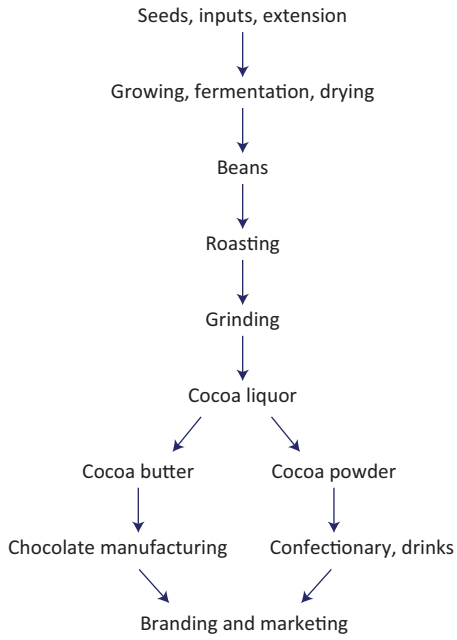
In contrast, additive value chains involve a process of sequentially adding value to each stage of the chain, and in this sense they contrast sharply with the structure of vertically specialised GVCs, in which the various stages of production can occur in parallel. Additive GVCs tend to characterise the resource sector: where the primary input into the final conversion process makes up a large proportion of the total value of the final product; the primary input may be varied as a result of the specific characteristics of the resource; where processing losses may form an important component of overall product value; and, finally, where the nature of production means that some processing needs necessarily to be completed before other value-adding activities can begin. A typical example of an additive chain is the production and processing of cocoa into chocolate (Figure 16.2). This involves a series of sequential stages that, unlike vertically specialised chains, are difficult to fragment and execute in parallel.

A joint programme between the WTO and the OECD estimated that vertically specialised chains are growing more rapidly than are additive GVCs. However, from the perspective of low-income economies, this balance between chain types takes a different form. In Africa's case, more than 75 per cent of exports involved additive chains, a direct consequence of Africa's specialisation in the resource sector (OECD 2014).

16.4 The impact of global value chains on the character of industrialisation

The fracturing of GVCs has posed increasing threats to the capacity of industrialisation to

Figure 16.2 The cocoa additive value chain



Source: Author.

provide sustainable incomes. For example, a Dominican Republic firm 'manufacturing' jeans for a large global clothing brand in the early 1990s began with an order offtake of 9,000 jeans per week, at a unit price of US$2.18., Just before the firm was forced into bankruptcy, however, the order offtake had been progressively reduced to 3,000 jeans per week, at a unit price of US$1.87. The explanation for this failing venture was that, following pressure from the Bretton Woods institutions, surrounding economies had devalued competitively in order to increase their comparative competitiveness (Kaplinsky 2005).

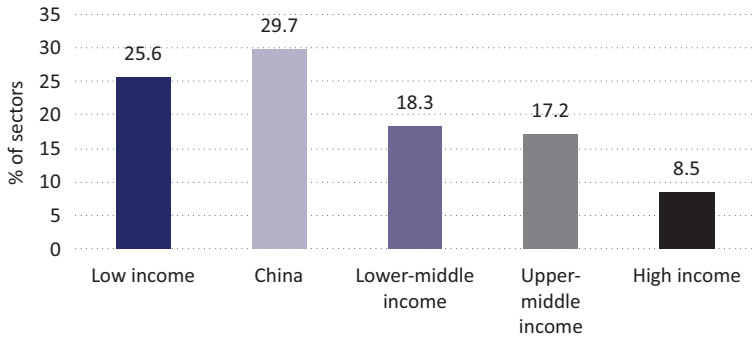
In the cases of both the individual exporting firm and the Dominican Republic's economy as a whole, their vulnerability arose from their position in GVCs. They were unable to offer any distinctive competences in production. The firm (at the micro level) was merely assembling jeans, and domestic content was limited to unskilled labour and utilities; at the macro level, meanwhile, this was mirrored in a large number of enterprises doing similar work in export processing zones (EPZs). The failure of either the jeans manufacturer or the economy as a whole to benefit from any significant barriers to entry meant that they could compete only by lowering incomes (unit prices for the firm; currency exchange rates for the economy). We can describe this process of increasing economic activity with reducing incomes as a form of 'immiserising growth'.

The Dominican Republic's experience shows that manufacturing does not of itself provide the scope for sustainable income growth. This is not a process unique to either the clothing sector or the Dominican Republic, however. In fact, many exporters of manufactures in the South have followed similar growth paths and found themselves in similar circumstances. Focusing on imports of manufactures into the EU between 1988 and 2001 (a period of particularly rapid advance of GVC trade), the likelihood of prices falling was greatest for those sectors in which manufacturing exporters in the South were dominant, with Chinese exports at the forefront of price reduction (Figure 16.3).

Consequently, the structural transformation that is required to provide sustainable income growth in the era of GVCs is no longer one that is provided by manufacturing per se, but one provided by a specific type of manufacturing. Some manufactures benefit from barriers to entry – the rents that provide for sustainable income growth – while others most certainly do not.

Similarly, it is no longer the case that the agricultural sector involves low-technology and low-skill processes, or that it produces easily substitutable products. For example, the export of fresh fruit and vegetables and horticulture from Africa requires considerable control over chain logistics to ensure that the products are as fresh as possible, that they conform to specifications and that they are packed in retailer-specific cartons; furthermore,

Figure 16.3 Percentage of sectors with negative price trends, 1988/89–2000/01 by country groupings



Source: Kaplinsky (2005).

full traceability is required in case there are any problems with the final product.

Again, in contradiction to the standard argument that, unlike manufactures, services are undifferentiated and benefit from few barriers to entry, this is clearly not the case. In high-tech software, services are unambiguously complex in nature, benefiting from knowledge-based barriers to entry. Yet even low-tech services such as tourism have niches that provide high margins, while low-end, more commodified areas of the tourist industry benefit from technology-intensive IT services similar to those that 'oil' agricultural GVCs.

The mining and metals sector is on the cusp of a major era of automation, with industry leaders pushing autonomous mining, observing that the basic technologies in mining have changed little since the late-nineteenth century. Rio Tinto, the world's second-largest mining company, has a three-pronged strategy to automate truck haulage, mine drilling and rail transport in its global operations.

16.5 Industrialisation and structural transformation: global value chains challenge received wisdom

A primary rationale for industrialisation is the close association between the contribution of manufacturing to gross domestic product (GDP) and per capita income. This association can be observed both through cross-section analysis (comparing different economies with different manufacturing-to-GDP ratios) and time-series analysis (observing the ratio of manufacturing to GDP in a particular economy). The explanation for this association includes the arguments that manufacturing is the primary source of productivity growth in an economy, that it produces income-inelastic products and that it benefits from favourable terms of trade with respect to commodities (the Prebisch–Singer hypothesis).

From this, it is argued that the structural transformation that provides for higher per capita incomes requires a transition from agriculture and simple non-traded services (such as shoe-shining) to manufacturing. Furthermore, it is argued that, within manufacturing, there is a hierarchy of productive sectors (reflecting technological intensity and scale) that provide for so-called 'normal' patterns of industrialisation. This includes sectoral shifts within manufacturing as a route for inter-sectoral structural transformation that will deliver sustained income growth.[3]

However, the advance of GVCs challenges this received wisdom. A snapshot of contrasting economic structures in China and New Zealand is a good demonstration of this. In China,

which has in recent decades specialised in assembly-intensive manufacturing by systematically augmenting the supply of low-wage labour, the contribution of manufacturing to GDP is 30 per cent and purchasing power parity (PPP) GDP per capita is US$6,600. New Zealand, with a small population and a limited domestic market, has a thriving high value-added agricultural sector, and manufacturing's contribution to GDP is only 12 per cent; its PPP GDP per capita is US$37,600.

Four primary conclusions follow from this analysis of GVC-led growth. The first is that sustainable income growth arises from the capacity of producers to protect themselves from competition – that is, to benefit from economic rents. Without this, participation in the global economy can be punishing and, at worst, can result in immiserising growth.

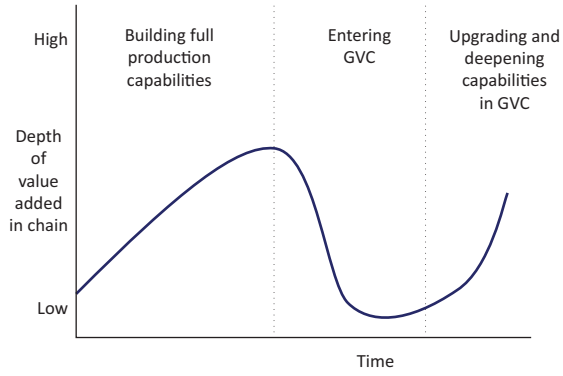
Second, rents are most often realised by an appropriate positioning within particular sectors, rather than by 'marching through the sectors'. For example, a 'simple' product such as a shoe or boot can be exported either as a basic plastic slip-on or as a highly decorated, exclusive designer product made from the highest-quality leather. Third, given the critical role played by GVCs in global trade, this positioning has to be achieved in a global context, and this inevitably involves the capacity to negotiate and bargain with the lead firms that dominate and control GVCs. Finally, contrary to received wisdom, many non-industrial sectors – including agriculture and services – are characterised by a variety of economic rent-rich niches.

Self-evidently, not all firms and economies can jump to the technological and competitive frontiers of global competition. Therefore, positioning in GVCs has to be geared to the level of capabilities. However, since the global competitive frontier is continually changing, the challenge is to identify a path for dynamic capability building that not only keeps up with the global frontier, but also seeks to allow the firm or the economy to improve its relative position within GVCs.

16.6 The character of capability building differs between the two families of global value chains

In vertically specialised chains, the task is to specialise in particular capabilities. These may include assembly capabilities (as in China's special economic zones), software (Bangalore, India), electronic hardware design (Korea), computer-generated imagery (Brighton, UK) and fashion design (Italy). Critically, these capabilities have applications across a range of industrial sectors. Firms and economies specialising in these capabilities typically provide only a very small proportion of the product's final value added. For firms with a history of production in a particular industry, the challenge is to 'thin out' their role, outsourcing any activities where they lack distinctive competences (Figure 16.4). For firms entering an industry for the first time, positioning will involve 'thinning in', beginning with only a small proportion of value added. However, after this initial positioning step, the tasks of deepening the level of capabilities, applying the capabilities developed in the chain

Figure 16.4 'Thinning out' and 'thinning in' in vertically specialised global value chains



Source: Author.

to other chains and perhaps transitioning to new capabilities are never-ending challenges if sustainable incomes are to be delivered.

By contrast, providing sustained income growth in additive GVCs implies a capacity to 'thicken out' participation in the chain through the systematic development of linkages. The natural resource sector, which dominates additive GVCs, often provides a route to linkage development. The lead firms in these sectors increasingly seek efficient local suppliers for activities outside their core competences, partly for cost reasons but also because they are under pressure from local communities and civil society organisations in their final markets to spread the benefits from resource extraction.

The resultant linkages may be backwards to suppliers or forwards to users of intermediates. In addition, linkages developed in some sectors may be horizontal, with applications in other resource sectors. The challenge for the host state is to speed up this process of market-led linkage development and, where possible, to begin to stray into the rent-intensive territories inhabited by the lead firms. Poorly designed and implemented policies can of course have the opposite impact of slowing down and shallowing out the process of market-driven linkage development.

16.7 The end of industrial policy? If so, what then?

Five major related policy challenges follow from the discussion in this chapter:

1. The focus of policy must shift from industrial policy (historically conflated with manufacturing[4]) to productive-sector policy. There may be as many realisable opportunities for sustained income growth in agriculture and services as there are in manufacturing. Systemic competitiveness cannot be achieved by an exclusive focus on a particular sector.

2. Particularly in vertically specialised GVCs, the focus of policy must shift from sectors (manufacturing, agriculture or services) to capabilities, and then to the spread of these capabilities to other chains. This is a complex problem, a challenge that is not easily understood and that requires the focused development of national systems of innovation, involving the productive sector, research and technology organisations, and educational institutions.[5]

3. Historically, industrial policy focused on the development of supply capacities. Insofar as productive-sector policies apply to participation in value chains, the focus must shift from the historical obsession with supply to incorporate a much greater recognition of the role played by markets in capability building. For example, the consolidation of the retail sector in the USA in the 1960s played a critical role in the export success of the newly industrialising Asian economies in the 1970s and 1980s, and was facilitated by conversations with the major buyers in the global apparel sector.

4. Productive-sector policy must necessarily develop the capacity to interact and bargain with the lead firms that dominate almost all GVCs. This is not the same as encouraging foreign direct investment (FDI), since in many sectors the major determinants of chain positioning and global competitiveness lie in the hands of global buyers.

5. Without focused policy intervention, standards-intensive production may often exclude small and informal-sector producers from GVCs (they may be unable to afford accreditation and may not have an adequately literate or numerate workforce). Standards-intensive production is a valuable driver of productivity improvement in many sectors.

Obviously, firm- and economy-wide sustainable growth is only one component of a broader set of policy objectives. Others include employment creation, more equitable patterns of value capture and greener trajectories of growth. While inclusive growth interfaces with policies designed to promote the productive sector, it represents a broader, and arguably more important, set of policy challenges.

Notes

1 Science Policy Research Unit, University of Sussex.
2 A recent paper by Rodrik (2015) casts doubt on the ability of manufacturing to continue to promote employment in the future. This is reinforced by concerns that emerging technologies (robotisation and 3D printing) provide new opportunities for capital–labour substitution in production. However, important as these concerns are, they will not be considered in this chapter, which focuses on the capacity of industry to provide sustainable income growth.
3 See Haraguchi and Rezonja (2010) for further information.
4 The classification of 'industry' in national accounts statistics includes manufacturing, infrastructure and utilities.
5 The failure to engage with the policy lessons emerging from the research on capability building is evident in the blithe recommendation that all that is required for sustainable income growth in global markets is for 'monkeys to learn to jump to adjacent trees' (Hidalgo *et al.* 2007).

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Chapter 17

Making Global Value Chains Work for Development in the Age of Automation and Globalisation Scepticism

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Abstract

How countries engage with global value chains (GVCs) determines how much they benefit from them. For an effective and sustainable strategy of GVC participation, governments must identify key binding constraints and design the necessary policy and regulatory interventions, including investing in infrastructure and capacity building. Countries that understand the opportunities that GVCs offer and adopt the appropriate policies to mitigate the risks associated with them have the opportunity – through GVCs – to boost employment and productivity in agriculture, manufacturing and services. The new policy framework that allows developing countries to maximise the gains from GVC integration is one in which a 'whole of supply chain approach' must be adopted. This reflects the fact that in a world economy where GVCs play a dominant role, imports matter as much as, if not more than, exports, and the flows of goods, services, people, ideas and capital are interdependent and must be assessed jointly. However, in the context of increased automation in many of the entry stages of GVC production in most industries, as well as rising protectionism in advanced countries, developing countries' efforts to engage and upgrade in GVCs face a more challenging global trading landscape than in the past.

17.1 Introduction

Effective global value-chain (GVC) engagement can provide countries with the opportunity to leapfrog their developmental processes. This is because developing countries that connect with GVCs in an effective way generally produce more and create better jobs, provide greater opportunities for domestic suppliers to trade, benefit from increased exports and, finally, experience higher productivity gains. The new GVC-enabled flows of know-how from high-income countries to low- and middle-income countries is a key mediating factor in determining the role of GVCs in industrialisation and development.

From the perspective of a developing country's policy-makers, the critical issue nowadays is how to effectively integrate a GVC-led development strategy into the economy as a whole and therefore how to maximise the benefits from technology transfers, knowledge spillovers and increased value addition. Policy-makers need to put in place appropriate policies to ensure that participation in GVCs benefits domestic society through more and better-paid jobs, better living conditions and social cohesion.

Finally, with increasing automation of GVC production in most industries and products, and rising protectionist forces in advanced countries, developing countries' efforts to engage and upgrade in GVCs face increasing challenges. This contribution reflects on how to more effectively engage with GVCs to make them work for development in a time of increased automation as well as scepticism

regarding the forces unleashed by the globalisation process.

17.2 Why global value chains matter for development

Companies used to make things primarily in one country, but nowadays this has all changed. Today, a single finished product often results from manufacturing and assembly in multiple countries, with each step in the process adding value to the end product. As a result, GVCs lower the threshold and costs for industrial development. Low- and middle-income countries can now industrialise by joining GVCs without the need to build their own value chain from scratch, as Japan and the Republic of Korea had to do in the twentieth century.[2] The reductions in thresholds and costs that have arisen enable low- and middle-income countries to focus on specific tasks in the value chain, rather than producing the entire product, while still reaching the scale necessary to produce profitably thanks to the access to the global markets intermediated by the GVC.

Through GVCs, countries trade more than products; they trade know-how and make things together. The new GVC-enabled flow of know-how from high-income countries to low- and middle-income countries is the single most important reason why GVCs matter for development. Low- and middle-income countries can benefit from foreign-originated patents; trademarks; operational, managerial and business practices; marketing expertise; and organisational models. Large multinational corporations (MNCs) establish highly sophisticated processes and flows, where parts and components produced in geographically distant facilities can be seamlessly integrated and customised for different world markets.

To facilitate this integration, MNCs also take an active role in seeking to improve local innovation, knowledge-based capital and competencies. A few examples are illustrative. The Samsung Group – which employs 369,000 people in 510 offices worldwide – worries about shortages of technical and engineering skills in Africa and how those shortages affect its efforts to embed its African workforce in Samsung's global production networks (ACET 2014). Other corporations are investing in building the skills base in low- and middle-income countries too (Dunbar 2013). For example, Lucent Technologies supports education and a range of learning programmes, including promoting educational reform, science and maths, and developing teachers and young leaders, in 16 countries throughout Africa, Asia, Europe and Latin America; Nike and the United Kingdom's Department for International Development run a programme to support access to economic assets for adolescent girls; Microsoft provides support to incorporate information technology (IT) into the daily lives of young people in the Philippines, Poland, the Russian Federation and South Africa; CISCO provides funds, expertise and equipment to create national networks of IT training centres in India, Mexico, Palestine and South Africa, in addition to the work of the Cisco Networking Academy, which has 10,000 academies in 165 countries; and, finally, Nokia enhances the life skills and leadership skills of young people in several countries, including Brazil, China and Mexico.

Countries that understand the opportunities that GVCs offer and adopt the appropriate policies to mitigate the risks associated with them have the opportunity – through GVCs – to boost employment and productivity in agriculture, manufacturing and services. The new policy framework that allows developing countries to maximise the gains from GVC integration is one in which imports matter as much as, if not more than, exports, and in which the flows of goods, services, people, ideas and capital are interdependent and must be assessed jointly.

Job creation and labour productivity growth are sometimes viewed as competing goals,

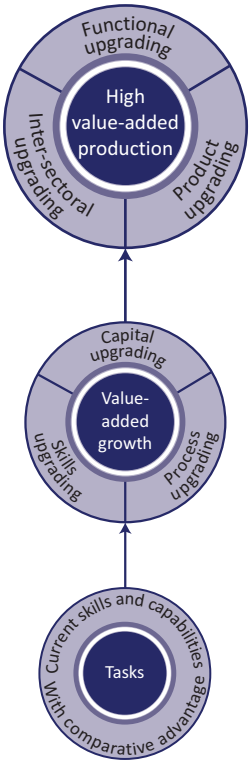
as higher labour productivity enables firms to produce a larger amount of value added without necessarily increasing the number of workers at the same rate (static productivity effects). Research, however, shows that GVC integration leads to more net jobs but lower job intensity (Calì and Hollweg 2015) and has strong potential for productivity gains via several transmission channels (dynamic productivity effects), which go hand in hand with increased labour demand caused by more vertical specialisation and higher output in GVCs.

17.3 What upgrading trajectories do we observe?

Drawing on earlier work by Humphrey (2004), Taglioni and Winkler (2016) differentiate between three types of economic upgrading based on productivity, comparative advantage, skills and capabilities: product upgrading, which entails moving into more sophisticated products within an existing value chain; functional upgrading, involving increasing the proportion of value added by moving towards more sophisticated tasks; and intersectoral upgrading, which involves moving into new supply chains with higher proportions of value added (Figure 17.1).

The ability of firms to upgrade is determined by improving the skills of workers (skills upgrading), improving the absorptive capacity and technology of firms (capital upgrading) and increasing productivity in existing tasks (process upgrading). Lead firms can play an important role here by setting detailed specifications and requirements that exceed local norms and create opportunities for improving capabilities, technology and assets. However, this is not always the case: the complexity of GVCs and the power dynamics within their governance structures can often lead to processes of downgrading or stagnation (Rossi 2013; Blažek 2015).

Figure 17.1 Achieving functional, product and intersectoral upgrading through skills, capital and process upgrading



Source: Taglioni and Winkler (2016).

While heterogeneity exists in how countries engage and upgrade in GVCs, some regularities in the trajectories of development can be identified. In Table 17.1, we sketch some of these regularities observed from field work and case-study literature. Reflecting their comparative advantage, low-income countries tend to engage in GVCs in industries of limited complexity, such as agriculture and manufacturing. These are also industries in which buyer–seller relations tend to be at arm's length more frequently than in other settings. Firm size is not a constraint, so even small firms can easily engage.

Once countries graduate to middle-income status, they start integrating in GVCs, with functions in advanced manufacturing and/or professional, modern services, including

Table 17.1 Trajectories in GVC engagement

Income group	Low income	Middle income	High income
Industry complexity	Agriculture and light manufacturing	Advanced manufacturing and services	Co-ordination of manufacturing and services, R&D, branding
Buyer–seller relations	Market relations	Relational/captive/ hierarchical	Primarily buyer, modular
Firm size	Small	Large	Lead firms, conglomerates
Mode of competition	Price-to-quality competitiveness	Increasingly diversified, non-price competitiveness	Highly specialised, technology frontier

Source: Engel and Taglioni (2017).

pre- and post-production high value-added services. In these GVCs, buyer–seller relations tend to be more relational, captive or hierarchical, as substantial know-how transfer takes place. The size of participating firms tends to be medium to large, particularly in manufacturing (Cusolito *et al*. 2016), and competition between firms is based on non-price features such as quality, degree of customisation or responsiveness and timeliness in delivery to clients.

Finally, once countries reach high-income status, their engagement in GVCs is predominantly specialised in tasks of co-ordination, and high value-added services, such as research and development (R&D) and branding. Firms are primarily buyers of inputs and components and sellers to end markets, and/or engaged in modular relationships. These firms' comparative advantage is based on offering highly specialised products, at the technology frontier.

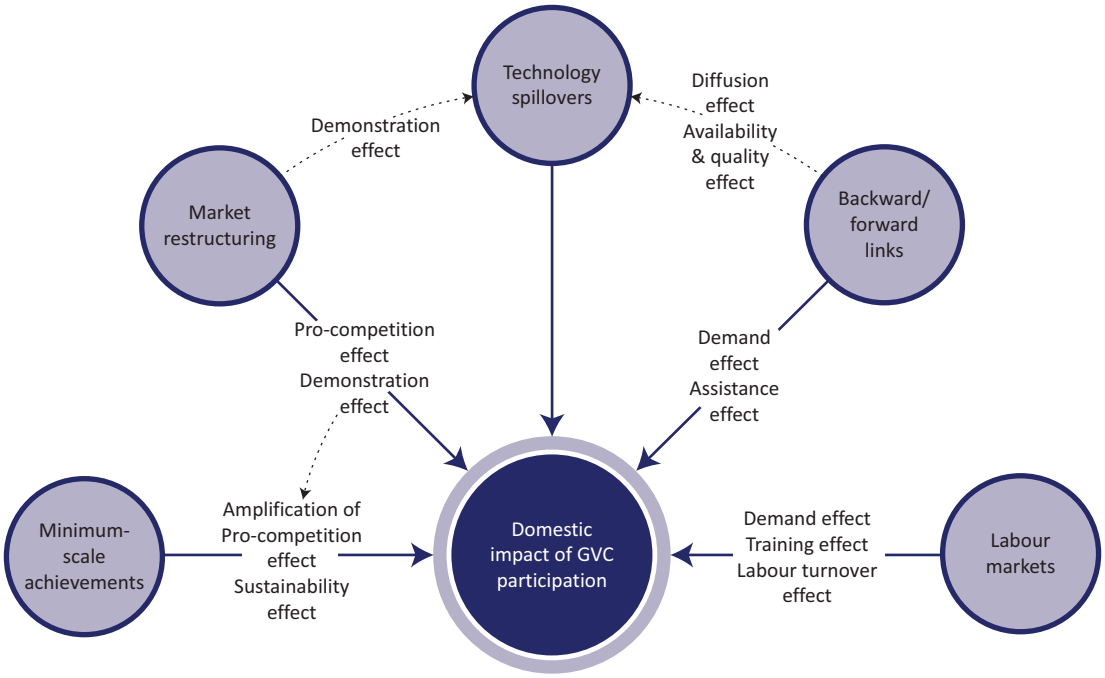
17.4 What factors are likely to influence countries' engagement in global value chains?

There is an extensive literature on the factors that are likely to influence countries' abilities to upgrade within GVCs, although this is primarily based on case studies, with few econometric analyses conducted until recently. However, in analysing the empirical relationship between GVC integration and the middle-income trap, it is important to note that, despite some caveats (see Rodríguez-Clare 2007), overall empirical evidence shows that open economies tend to grow faster and have higher-income levels than closed economies (Wacziarg and Welch 2008, Gill and Kharas 2015).

Taglioni and Winkler (2016) argue that there are five main transmission channels through which GVC participation could lead to higher output, productivity and value added: backward and forward linkages; the creation of pro-competitive market restructuring effects; technology spillover; minimum-scale achievements that amplify pro-competitive effects; and, finally, labour-market effects including demand for skilled workers and their training, as well as turnover when trained workers move to local firms. Figure 17.2 provides an overview of these and shows the complex and frequent intermediating effects that individual channels have on one another. Kummritz *et al*. (2015) identify three main factors that link value-chain integration to productivity. These are the roles of foreign direct investment (FDI), exporting and importing inputs.

In the case of FDI, the impact of spillovers on productivity is not conclusive (Görg and Greenaway 2004; Paus and Gallagher 2008). In the case of the link between exporting and economic upgrading, Bernard and Jensen (1995) demonstrated that exporters outperform non-exporters in the same sector and country in terms of productivity, skills and wages. This led to questions about the role of self-selection

Figure 17.2 Transmission channels from GVC participation to the domestic economy



Source: Taglioni and Winkler (2016).

or 'learning-by-exporting' (LBE). In the case of the former, the assumption is that only more productive firms are able to absorb additional trade costs. The LBE literature argues that exporting improves the productivity of firms over time. These findings have been most robust for developing countries and nascent industries. Recent literature has questioned the robustness of early LBE studies (see Clerides *et al.* 1998), but LBE effects have been found by Lileevea and Treffler (2007) for Canada, and Fernandes and Isgut (2015) for Colombia.

Finally, for the third channel, the role of importing inputs on productivity, there is a breadth of literature, albeit primarily focused on developed countries. There are three main feedback loops through which importing is seen as improving key aspects of competitiveness: productivity, innovation and skills. In the case of productivity, several studies have shown that easier access to imports tends to improve firm productivity. Grossman and Rossi-Hansberg (2008) show that offshoring can entail productivity gains similar to technological progress for offshoring nations through lower input costs. Amiti and Konings (2007) show that a 10 per cent fall in input tariffs leads to a 12 per cent improvement in productivity for importing firms. Bas (2012) demonstrates that, for a sample of Argentinian firms, input tariffs facilitate entry into export markets. In the case of innovation, MacGarvie (2006), drawing on French trade and citation data, and Bøler *et al.* (2015), using a sample of Norwegian firms, find importers to be more innovative and profitable. Finally, there is an emerging literature showing that skills are relevant for importing and also complementary to it. Koren and Csillag (2011) show that importing more sophisticated machinery requires higher skills to operate it and, in turn, increases returns to skills.

To actually test the effects of GVC participation in terms of whether this has enabled countries to economically upgrade, Kummritz *et al.* (2016) use foreign value added in exports and

domestic value added re-exported by third countries as measures of backward and forward GVC integration, respectively, and domestic value added generated by a specific sector as the measure of economic upgrading. Using a standard fixed-effects model, they test the impact of a series of national characteristics that may be associated with economic upgrading via GVC participation, to capture a country's infrastructure, connectivity, investment and trade policy, business climate and institutions, financial and labour markets, skills and education, innovation and product standards, and labour, social and environmental standards.

Using the Organisation for Economic Co-operation and Development's Inter-Country Input–Output (OECD ICIO) database for 61 countries and 34 industries in 1995, 2000, 2005 and 2008–11, Kummritz *et al. (ibid)* find that overall GVC integration increases a country's domestic value added. Splitting the sample into income groups, they find that this does not substantially change results, although GVC integration as a buyer (i.e. via foreign value added) is more significant for low-income countries and low- and middle-income countries; for upper middle-income countries and high-income countries, selling into GVCs has a greater impact. On the buyer side, airfreight infrastructure and road network quality are of particular importance, while connectivity, education and skills, and the level of standards compliance, are most important for countries selling into GVCs. This leads the authors to conclude that the policy areas hypothesised to be significant for economic upgrading within GVCs do in fact largely have the expected impact.

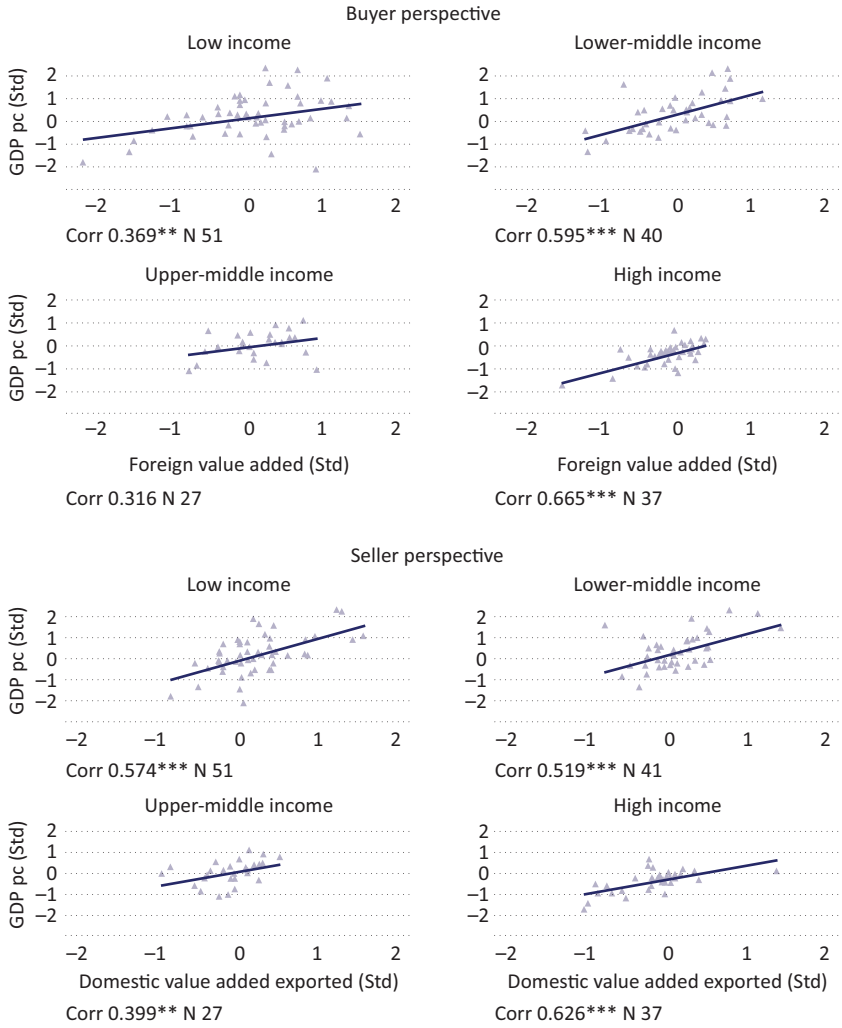
Boffa *et al*. (2016) build on these findings to focus specifically on the relationship between GVC integration and the 'middle-income trap', and – more broadly – on the role of GVC integration in supporting countries to graduate to a higher-income level. As can be seen in Figure 17.3, the magnitude of the correlation between GVC integration and gross domestic product (GDP) per capita depends on income status and the type of integration. Moving from these findings of correlation, the authors use a logit (probit) model for income-group transitions and find that GVC integration increases GDP per capita, but that gains diminish as income increases. Similarly, growth in output per capita is highest for lower-income groups. Certain channels between GVC integration depend on industry similarity, with linkages assumed to be easier when trade is intra-industry. They also find that manufacturing leads to higher GDP gains for buyers, but that for services both types of integration – forward and backward – lead to similar GDP increases.

However, these studies – while providing an important foundation for better understanding what variables are significant for upgrading – suffer from two main limitations. First, due to the lack of value-added trade data prior to 1990, they only allow analysis of the last 20 years, while much of the middle-income trap literature goes back 50 years and more. Second, the studies provide a helpful overview of what kind of institutions and policies are associated with upgrading and income transitions, but they do not specify the global environment conditions under which specific types of institutions and policies lead to greater gains from GVC participation. While some of these opportunities may have been available 20 years ago, they may no longer be available for new entrants today, or even feasible, given that most late industrialisers nowadays tend to be small, both geographically and economically, as well as distant from end markets and the current hubs of global economic activity.

17.5 GVC participation in the context of technical progress and globalisation scepticism

As the aforementioned study by Boffa *et al*. (2016) has pointed out, there is a positive and

Figure 17.3 Growth of GVC integration and GDP per capita by income category



Source: Boffa *et al.* (2016).

significant relationship between GDP per capita and integration into GVCs, although this correlation diminishes at higher-income levels. This points to questions around the gains of GVC trade for workers in countries at the middle–high income threshold. Over the past few years, there has been a proliferation of reports[3] investigating the impact of technological change on production, trade and labour markets. The authors focus particularly on the rapid technological advances in automation, big-data analytics and digitisation, as well as manufacturing responses to climate change and other environmental- and resource-related risks. These responses include transitions towards additive manufacturing through 3D printing technologies and the growth of the circular economy paradigm, which is likely to require manufacturers to design products for several cycles of disassembly and reutilisation.

As Antràs (2015) notes, GVCs are characterised by four features: customised production; sequential production decisions going from the buyer to the suppliers; high contracting

costs; and global matching of goods, services, production teams and ideas. All four of these point to the significant power that MNCs co-ordinating GVCs have in the selection of where geographically to locate individual production tasks. Technological improvements are likely in each of these cases to increase both the sophistication of buyer demands and the level of supplier capabilities required to meet them. A full exploration of these issues is beyond the scope of this chapter, but, given their implications for the relationship between GVC participation and declining economic growth and structural stasis experienced by many middle-income countries, it is worth addressing two aspects of these medium-term developments in the context of the preceding discussion.

First, the workforce skills required to participate in manufacturing of even relatively unsophisticated products are likely to increase substantially, requiring not only higher levels of education, but also the 'cross-domain' skills and tacit knowledge necessary for using new equipment and thinking computationally and analytically, as well as high levels of technical and engineering knowledge. For many middle-income countries, this will require a fundamental upgrading of education systems, research institutions and innovation systems. Therefore, the already diminishing advantage that labour-abundant, low-wage countries currently possess for low-skill manufacturing is likely to diminish further.

Second, and related to the previous point, the incentives to 're-shore' production to developed economies given both the need for highly skilled workers and – more importantly – the ability to automate many tasks, is likely to become even greater in coming years, a trend likely to be reinforced by the rapidly growing political backlash against globalisation and rising economic nationalism in many Western countries. World Bank (2016) research has found that, in China and India, the jobs of 77 per cent and 69 per cent of workers, respectively, are at risk due to automation. In this context, trade in data and information, which is rapidly growing in importance, is likely to further increase the modularity of work processes even within production and manufacturing, and to bypass all but the most sophisticated middle-income countries.

Collectively, these issues are likely to reinforce trends towards 'premature deindustrialization' (Rodrik 2016), with countries running out of industrialisation opportunities sooner and at lower levels of income than earlier industrialisers – a trend that has hit Latin American middle-income countries particularly hard, both economically and in terms of risk towards political stability and democratisation. Thus, while it was only recently that firms and governments in developed and developing economies were coming to terms with the fact that the 'GVC revolution' required a fundamental rethinking of trade and, more broadly, industrial development, these new, disruptive technological changes will again require new policies and strategies to enable firms and governments to adapt.

This in turn points to the challenges for ensuring that the gains from GVC trade for industrialising countries in fact benefit workers and households. Given the complex political economy of globalisation emerging, particularly for industrialising countries, there is a need for a greater understanding of what automation is, as well as the meaning of globalisation itself, given that narratives have profound political consequences. Finally, there is a need for a greater focus on the distributional effects of GVC trade, adjustment costs and displacement. Closer attention must be paid to the labour-market impacts and to the risks of downgrading within GVCs for certain workers, even as countries overall, upgrade.

17.6 Policy frameworks

How countries engage with GVCs determines how much they benefit from them. While policy needs to adapt to a rapidly changing world, it remains valid that, for an effective and sustainable strategy for GVC participation, some areas of policy remain key. Identifying binding constraints and designing the necessary policy and regulatory interventions will help achieve distinct objectives and address country-specific challenges in relation to:

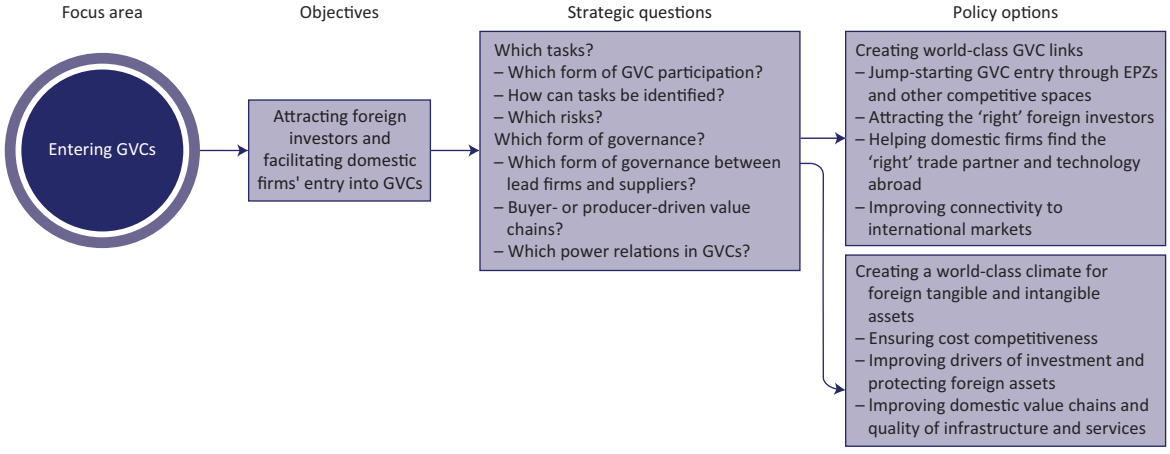
- participating in GVCs, including attracting FDI and facilitating domestic firm entry into GVCs;
- expanding and strengthening existing GVC participation, including promoting economic upgrading and densification, and strengthening domestic firms' absorptive capacity; and
- ensuring sustainability and transforming GVC participation into inclusive growth by fostering economy-wide productivity spillovers, social upgrading and welfare improvements.

By integrating their domestic firms (suppliers and final producers) into GVCs, developing countries can help their economies industrialise, become services-oriented more quickly and move closer to their development goals. Taglioni and Winkler (2016) suggest ways of assessing various aspects of GVC participation (including the rate, strength and consistency across sectors and industries), and thus of identifying key policy needs. They suggest strategic questions and approaches to addressing such policy needs and offer policy options. These are summarised in Figures 17.4–17.6.

Figure 17.4 shows ways for countries to enter global production networks. Those avenues include ways to attract foreign investors, as well as strategies to enhance the participation of domestic firms in GVCs. Suggestions for entering GVCs encompass measures to ensure that the country can offer world-class connectivity to the global economy and create a friendly business climate for foreign tangible and intangible assets.

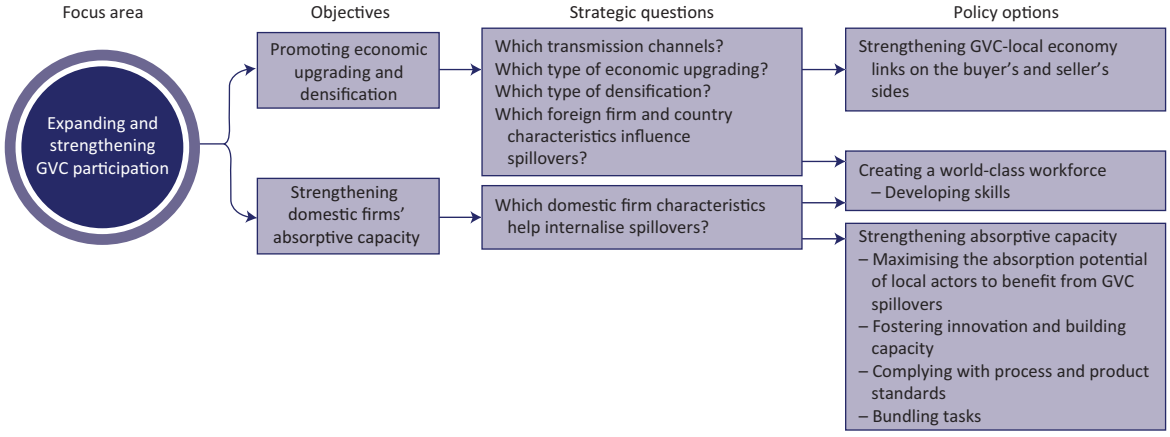
However, GVC participation is a necessary but not sufficient condition for development. Although GVCs open doors, they are not magical. Most of the hard work still has to be done at home, with domestic pro-investment, pro-skills, pro-jobs and pro-growth reforms.

Figure 17.4 A policy framework for entering GVCs



Source: Taglioni and Winkler (2016).

Figure 17.5 Policies for strengthening participation in GVCs



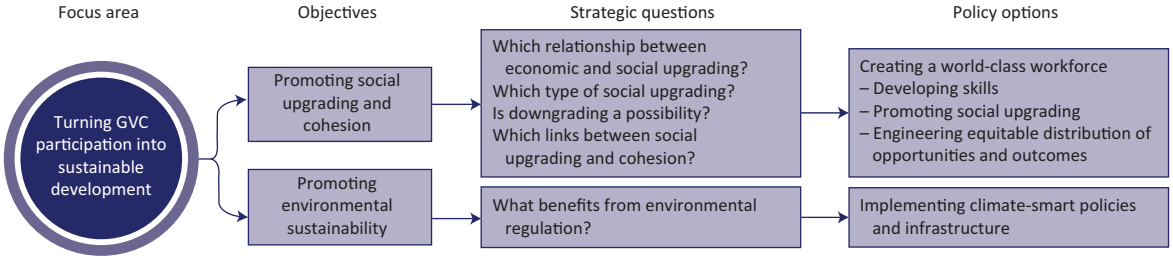
Source: Taglioni and Winkler (2016).

Creating demand for high-productivity workers must be matched with a supply of capable workers who have the relevant skills. In other words, when thinking about the first step in facilitating GVC entry, policy-makers must have a clear road map of how entry will lead to strengthened and broader participation, and economic and social upgrading. Policy-makers must keep a keen eye on the workforce's competencies and how they match up with foreign investment.

Figure 17.5 shows that expanding and strengthening participation in GVCs require countries to lever their position and enhance domestic production, achieving higher value addition through economic upgrading and densification. The concept of economic upgrading is largely about gaining competitiveness in higher value-added processes, products, tasks and sectors. Densification involves engaging more local actors (firms and workers) in the GVC network. Raising domestic labour productivity and increasing skills contributes to the overall goal of increasing a country's value added that results from GVC participation.

Finally, countries also need to tackle the challenge of turning GVC participation into sustainable development (Figure 17.6). Three areas of sustainable development are important: macroeconomic sustainability, social sustainability and environmental sustainability. Not only are they important development objectives per se, but they also ensure the sustainability of a GVC-centric

Figure 17.6 Policies for turning GVC participation into sustainable development



Source: Taglioni and Winkler (2016).

approach to development. Labour market-enhancing outcomes for workers at home and more equitable distribution of opportunities and outcomes create social support for a reform agenda aimed at strengthening a country's GVC participation. Climate-smart policy prescriptions can mitigate the challenges for firms from climatic disruptions, as those firms seek to ensure the long-term predictability, reliability and time-sensitive delivery of goods necessary to participate in GVCs. Because climatic disruption can impair firms' ability to access inputs and deliver final products, countries' preparedness is an increasingly critical factor in firms' location decisions.

17.7 Conclusion

This chapter has surveyed and assessed the relationship between GVC participation and economic development. Specifically, we have examined the channels and circumstances through which GVC engagement may assist countries in advancing their economic development objectives. In this context, it is useful restate a few of the key assumptions underpinning this chapter. First, the types of policies and the quality of institutions required for successful GVC participation play an important role in determining economic development. However, 'graduating' to high-income status remains difficult: the types of capabilities, policies, investment decisions and institutional processes are highly complex and interact in unpredictable and dynamic ways. Moreover, they are often unique to the country, sector and product context in question. Emergent technological changes are likely to further complicate the ability of countries to integrate into and upgrade within GVCs.

This in turn informs a series of more specific policy recommendations of how to move towards a less zero-sum view of the emergent paradigm of industrial development in an age of globalised production networks and increasing automation. For one, policy-makers and companies in the digital era – in developed and developing countries alike – will have to focus on the key features of the twenty-first century economy. These include the interplay between technological (digital) innovation and globalisation (increased connectivity and GVCs), and strengthening an environment conducive to diversification, innovation and productivity in the era of digital innovation.

In this context, policy-makers should consider the following issues as priorities:

- *Investing in digital technologies* – newcomers should not favour manufacturing over services and innovation functions, and early developers and newcomers alike should balance policies that support connectivity infrastructure building and the deployment of leading-edge information and communications technologies (ICTs), with those that support the development of the domestic ICT sector (reaching a balance is likely to present a challenge).
- *GVCs and the enabling environment* – to be competitive in the new ICT-dominated environment, countries and companies will need to be part of global production and knowledge networks, upgrade infrastructure and connectivity systems, and ensure regulatory certainty.
- *Human capital* – countries will need to develop the necessary talent through technical skills acquisition and, crucially, soft skills (managerial skills, strong foreign-language skills, etc.)
- *Reducing barriers to knowledge* – they will also need to reduce barriers to foreign skilled personnel and individual services. One dimension of this could be mutual recognition arrangements for professional services, which could help to facilitate the

movement of global talent into the home country. Reducing barriers to knowledge also involves establishing strong intellectual property rights to attract technology-intensive foreign investors.

- *Focus on workers, as well as jobs and firms* – ensure that the link between productivity and distribution, and that between economic and social impacts, works. This requires ensuring social cohesion through policies that focus on workers and not on jobs (retrain, educate, support mobility and income, perhaps associated with well-targeted and non-distortive vertical interventions), as well as package policies for openness with social, governance and infrastructural support at the regional level (the EU single market is possibly the best example of successful opening and avoidance of the middle-income trap for most members). This also applies to industrialised countries and includes supporting workers who have suffered wage cuts and/or job loss due to technical progress and globalisation.
- *Deep integration agreements with knowledge clusters* – new technologies, new processes and new products require a fair amount of decodification and recodification according to innovative criteria. Therefore, they tend to arise from existing knowledge clusters, where the pool of skills and support functions is both deep and broad. The activity of decodification and codification of new processes also implies that such clusters are natural standard-setting bodies. The role of knowledge clusters can therefore be self-reinforcing.
- *Contract enforcement and governance* – cutting-edge digitally powered goods and services are likely to be outsourced, based on sophisticated contractual arrangements. This means that areas such as contract enforcement and the rule of law are again important foundational areas.
- *Infrastructure investment* – this can help prevent the digital revolution creating a wedge between the networked (countries, individuals, firms) and the non-networked. Infrastructure (physical, digital and institutional) building that connects global hubs with peripheral countries, and global cities with both smaller centres and rural areas, opens opportunities and ensures that the development potential of digital technologies reaches a large fraction of the world's population. Without infrastructure building, the matching of technologies, services and talents at the global level unleashed by the interplay between digital innovation and globalisation would lead to distributional effects, including shifts in global income towards the networked (countries, individuals, firms) and a task remuneration structure that further tilts away from production functions to services, innovation and core R&D functions.

Notes

1 World Bank, Washington, DC.
2 See Baldwin (2012) and 'developmental state' literature (Amsden 1992; Wade 1990; Johnson 1995).
3 For example, by Brookings (West 2015), McKinsey (Chui *et al.* 2015) and KPMG (2016), as well as numerous papers (see Autor 2015; Beaudry *et al.* 2016; Eden and Gaggl 2015; Morikawa 2016; Pikos and Thomsen 2016).

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Chapter 18

Delivering Inclusive Global Value Chains

Mohammad A Razzaque and Jodie Keane

Abstract[1]

This chapter evaluates the discourse regarding entry into and participation in global value chains (GVCs) for developing Commonwealth and francophone countries. It critically reviews conventional policy prescriptions – import liberalisation and improved trade facilitation – intended to bolster entry into and participation in GVCs. Several conditions are identified as compromising the ability of many developing Commonwealth and francophone countries to fully integrate into GVCs, even if they followed these policies. This is because trade costs and geographical distance from the dominant hubs of global economic activity still exert major influences on participation. Taking into account also the low and declining proportions of value added at entry-level stages of production, the suitability of a global GVC integration agenda in the absence of effective global economic governance structures is questionable. In addition to receiving disproportionately low shares of the gains of actual value added, many developing country members face major challenges in relation to funding, as well as in negotiating upgrading processes with lead firms, who may not wish to relinquish particular economic rents. In this context, entry into and upgrading within regional value chains may be more aligned with trade and development objectives, with a focus on adding value rather than trading it.

18.1 Introduction

Fundamental changes are taking place in global trade. The traditional predominant notion of an entire production process being undertaken by one firm, in one country, is being replaced by value chain-led trade. It involves the cross-border fragmentation of production processes, which entails specialisation in a narrower range of tasks by firms. Given the limited productive capacity of many developing countries, integrating with global value chains (GVCs) may provide new trade opportunities for local firms to gain access to new markets through specialising in a single task. By becoming part of an international production network, attracting foreign direct investment (FDI) and accessing technological know-how in more dynamic export sectors may be more achievable. Given the nature of the tasks involved, GVCs can assist in creating employment-intensive exporting activities, thus helping to achieve the 'golden nexus' of trade, growth and job creation.

Despite the potential of GVCs, however, the growing body of evidence on the nature and impact of GVC participation is mixed. Many poor, small and vulnerable developing countries, including members of the Commonwealth and the Francophonie (CF) have achieved rather limited GVC participation in more dynamic types of trade to date. In other cases, evidence of the beneficial effects of GVC participation continues to be subject to scrutiny.

There is a proliferation of studies and analyses that consider specific policy measures to promote developing countries' participation in GVCs. While a consensus on these policy

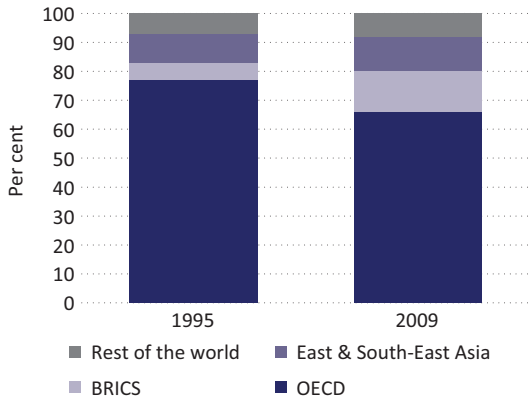
prescriptions appears to exist, in our view the implications arising from certain factors critical for delivering inclusive GVCs have not received adequate attention in the current policy discourse. This chapter highlights three areas that deserve further consideration by policy-makers in order to more effectively deliver inclusive GVCs: the inherent structural characteristics of groups of countries that competitively disadvantage participation in certain types of GVCs; the fragmented nature of global governance mechanisms, combined with fragmented production, which can undermine potential developmental gains; and the potential effects of the emerging global trade architecture on future GVC participation.

18.2 Global value-chain participation and measures to promote it

Since the early 1990s, the world export-to-GDP ratio has increased from 19 per cent to 31 per cent.[2] This growth in export intensity is partly attributable to the intensification of GVCs. The huge significance of trade in intermediate inputs, estimated to now comprise at least two-thirds of all global trade (OECD 2013), is testimony to this.

However, despite these trends there is strong evidence of highly concentrated GVC participation. It is estimated from OECD-WTO data that almost 92 per cent of the total value added created by GVCs is due collectively to members of the Organisation for Economic Co-operation and Development (OECD), the BRICS countries (Brazil, Russia, India, China and South Africa) and a few Asian nations (Figure 18.1). Measures using a different database, – the UNCTAD (United Nations Conference on Trade and Development) Eora database, as shown in Figure 18.2 – also suggest that global trade remains concentrated in what have been

Figure 18.1 Value-added trade is highly concentrated

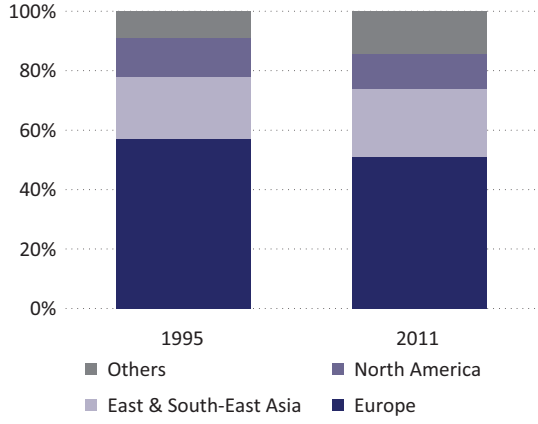


Source: Information as provided in Banga (2013) using the OECD-WTO TiVA database.

dubbed 'Factory Europe', 'Factory North America' and 'Factory Asia' (Baldwin 2011).

Although limited, there is evidence that some least developed countries (LDCs) and African countries are beginning to participate in GVCs. 'Transformed exports', including manufactures, semi-manufactures and processed primary products, now include LDC exports (ITC 2013). Africa's GVC integration in primary products is found to be increasing (AfDB 2014). However, given Africa's overall overwhelming

Figure 18.2 Europe, North America and East Asia are three major dominant regions in value-added trade



Source: UNCTAD-EORA GVC database.

economic dependence on primary commodity exports, the actual extent and nature of GVC participation is not clear. Currently, very little is known about small states' participation in GVCs and this may reflect limited evidence on services GVCs to date.

How countries participate in GVCs and where they are located within GVCs matters. Countries specialising in pre-manufacturing (e.g. R&D, standardisation, design) and post-manufacturing (e.g. logistics, marketing, brand development) activities are able to capture more value in GVCs than countries that specialise in the manufacturing of the products. The value captured by these types of services in GVCs may be considerably more than that attained from manufacturing activities.

It is generally recognised that a large majority of LDCs, small states and sub-Saharan African (SSA) countries have failed to add more value by processing their primary exports and moving up the GVCs within which they specialise. It has been argued that participating in the lower end of a GVC can be counterproductive, and may lead to a 'hollowing-out' of the manufacturing sector. Some commodity exporters may become trapped in captive value chains (Nissanke and Mavrotas 2010; Keane 2012). Developing countries may become stuck exporting low value-added items with lower gains accruing over time (Banga 2013). This disadvantageous process is also known as 'immiserising growth' (Kaplinsky 2005) – a phenomenon recognised in the case-study GVC literature of the 1990s, but ignored by the current GVC discourse.

18.3 Current policy prescriptions

In view of the new findings from input–output measures of GVC participation, a number of recent studies discuss options for more effective integration into GVCs. The typical policy considerations include import liberalisation and improved trade facilitation measures to reduce costs of imported inputs, addressing non-tariff barriers, improving the investment climate, investing in infrastructure development and linking GVCs to industrial development policies. These are of course important issues for promoting competitiveness and inducing trade responses in developing countries.

However, overcoming all exclusionary barriers to effective GVC participation within the same set of policy prescriptions is simply unrealistic. Moreover, there is a need to more carefully distinguish between interventions designed to, on the one hand, assist small and medium-sized enterprises (SMEs) in entering into GVCs and new relationships with lead firms and, on the other, assist countries in beginning GVC participation through inviting FDI and the relocation of production units from abroad.

There are inherent structural characteristics that can result in the systemic exclusion of some countries from GVCs, given the competitiveness effects of economic geography. Even when countries are integrated with GVCs, they might not be participating in a gainful way, in part because of a failure to align value-chain governance with developmental objectives, nationally as well as globally. Much of the current GVC literature, and its resultant policy implications, is reminiscent of the 1990s liberalisation agenda. Although understanding of the complex relationship between trade, growth and the achievement of economic structural transformation has improved in recent years, these lessons do not seem to have been heeded. Finally, the evolving global-trade architecture arising from the emergence of mega-regionals and the advent of developing countries as serious players in global trade are likely to be determining factors in future GVC participation. The resultant implications of these issues must be actively considered in the context of promoting inclusive, development-oriented GVCs.

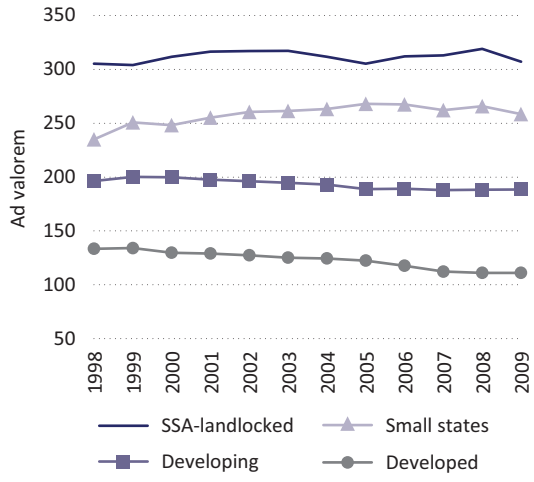
18.4 Economic geography and value-chain trade

A large number of CF countries suffer from the small size of their domestic markets in conjunction with their unfavourable geographical locations, at very long distances from the global centres of commercial activities. This inflicts serious disadvantages in terms of excessive trade costs. This cost disadvantage must be considered in the context of the low proportions of value added available at the entry-level stages of GVC participation. Firms and production units in these countries are mostly SMEs with limited productive capacity.

18.4.1 Evidence of trade-cost disadvantages

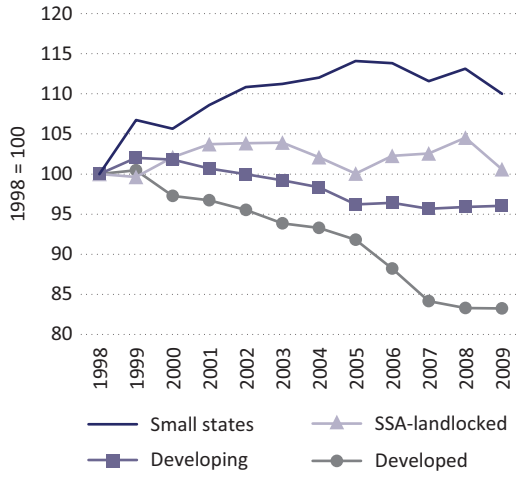
Analysis of data from a pioneering World Bank-UNESCAP (UN Economic and Social Commission for Asia and the Pacific) project confirms the severe competitive cost disadvantages faced by many landlocked SSA countries and small states (Figure 18.3). Measured in *ad valorem* equivalent terms,

Figure 18.3 Trade costs are much higher for small states and landlocked SSA countries



Source: Authors' computation using World Bank-UNESCAP data. Calculations are based on bilateral costs with 10 largest global importers.

Figure 18.4 Trade costs for small states and landlocked SSA countries, unlike those for other countries, have not been declining



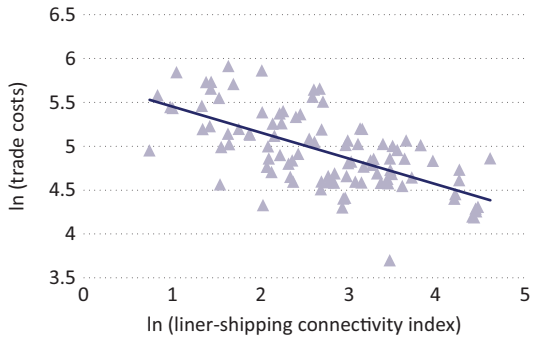
Source and note: Authors' calculation. Ad valorem equivalent trade costs are converted into index number with 1998 = 100.

the average trade costs for the group of small states and landlocked SSA countries identified are much higher than those of other country groups.[3] While developed countries have experienced considerable reductions in trade costs and developing countries show a general trend towards reductions, this is not the case for small states (Figure 18.4).

While geographical distance between bilateral trading partners exerts the largest impact on trade costs, other factors, such as liner shipping connectivity, are also shown to have an important influence (Arvis *et al.* 2013). Indeed, the liner-shipping connectivity index (a high value indicates better connectivity) and trade costs are strongly and inversely correlated (Figure 18.5). Even with improvements in shipping connectivity, unfavourable geographical location combined with small consignments may indicate limited trade gains (Figure 18.6).

These excessive costs have serious implications for trade in general and participation in GVCs in particular. A 10 percentage point increase in transport costs is found to reduce

Figure 18.5 Trade costs are negatively related to improved shipping connectivity

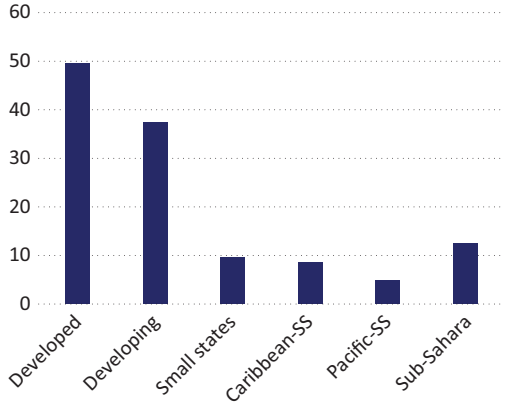


Source: Authors' illustration, with liner-shipping index data from UNCTAD and trade costs data from World Bank-UNESCAP. Log of trade costs used.

trade volumes by about 20 per cent (Limao and Venables 2001). Moreover, country *ad valorem* transport costs of 20 per cent on both final output and intermediate goods reduce domestic value added (including wages and profits) by 60 per cent when intermediate goods account for 50 per cent of costs. The implication is that because of geographical location, foreign firms might be reluctant to move or relocate their production to these countries – even when wages are low (Redding and Venables 2001).

The typical policy prescription of liberalising trade, ensuring good domestic policies and automatically attracting FDI and value chain-led trade, is therefore likely to be unhelpful in these circumstances. It has been argued that distance matters more in supply chains and, even with today's information and communications technology revolution, global production networks are likely to remain concentrated in low-wage nations that are near, or even contiguous with, high-technology nations (Baldwin 2011). This reality poses a major challenge to the current GVC narrative. The fragmentation process of the future will be different from that of the past and is likely to be at a much lower level of disaggregation. This is something policy-makers must be more sensitive to. Others point out that the fragmentation process of services has hardly begun yet.[4] These future developments are likely to be of particular interest to many Commonwealth small states.

Figure 18.6 Small states and SSA countries have much lower liner-shipping connectivity index scores



18.5 Value creation and distribution: effective governance of global value chains

Longstanding concerns of CF developing members regarding the highly asymmetric distribution of value within GVCs remain unaddressed. Effective value-chain governance requires the alignment of incentive structures for firms taking into account public policy and developmental objectives. There are risks of advancing a GVC integration agenda without effective global economic governance structures.

As GVCs have been fragmented across countries, they have also become more tightly co-ordinated by lead firms; this process is reflected in a movement from arm's-length relations towards closer inter- and intra-firm relations.[5] New estimates by UNCTAD (2013) suggest that 80 per cent of global trade occurs within networks co-ordinated by multinational enterprises (MNEs) and that around 30 per cent of this is in the form of intra-firm trade.

Developing countries may have begun to trade more, and more recently have increased trade in value added, but they may not necessarily be gaining more from this trade (UNCTAD 2002, 2013). This is because lower value-added activities are either outsourced or offshored by lead firms, while higher value-added activities are retained. Manufacturing stages of production have simply become less valuable over time for producers locked into this stage of production.[6] We summarise some of the relevant findings from the case study-based GVC literature below:

- **Coffee:** it is estimated that the farm-gate price of coffee, which is subsequently divided up among traders, producers and labourers, equates to around 10 per cent of the final retail price of coffee sold on supermarket shelves. This is compared with the 22 per cent that accrues directly to retailers, or 51 per cent if prepared own-brand coffee is marketed by the retailers (Fitter and Kaplinsky 2001).[7] Because of the collapse of the International Coffee Agreement in 1989, the liberalisation of coffee-marketing systems and the entrance of new actors trading more virtually, local producers and traders in coffee-exporting countries are bearing the full brunt of low and increasingly unstable coffee prices.[8] Considering a major coffee-exporting SSA country, Uganda, where 90 per cent of the population is involved in subsistence farming, with around 1.5 million households associated with coffee-related activities, there is evidence to suggest that Uganda trades within a captive value chain.[9]

- **Garments:** in terms of the distribution of value added within the apparel sector, 70 per cent of the retail price is retained by lead firms in the United States, while manufacturing activities, including sourcing of raw materials from third countries and the shipping costs involved, account for the remaining 30 per cent.[10] In the process, factory workers in an LDC such as Bangladesh, with an official minimum monthly wage of US$68, receive just 1 per cent of the total value of the finished product. The sector is a major employer of women.

- **Horticulture:** in terms of value distribution for the average firm, it is estimated by Hortiwise (2012) that Kenyan growers receive 15 per cent (US$0.11) of the total retail value, compared with the 64 per cent (US$0.74) retained by retailers. This is around the same level reported by Dolan and Humphrey (2000) for the horticulture sector, and by Kaplan and Kaplinsky (1998) for the deciduous canned fruit sector. Like the garment sector in Asia, the horticulture sector in Africa is a major employer of women.

It is fair to say that many CF developing countries remain trapped in low value-added segments of GVCs, and highly asymmetric power relations between chain actors are not conducive to advancing desired social and developmental objectives. As argued by Kasente (2012), there is a great need for gender equality issues to be integrated into all stages of coffee production and marketing – referred to as 'value chains' – if women are to realise prosperity from their labour and move up the value chain as active participants and decision-makers. Buyers and lead firms are becoming more demanding, but they do not always provide support or transfer knowledge and capabilities (Pietrobelli 2008), or offer higher price margins to incentivise economic and social upgrading. Even leaving aside the issue of distribution, the low proportions of value added now available in the entry-level stages of GVCs further emphasise the formidable challenges faced by CF members with amplified trade costs due to economic geography considerations.

Based on the available evidence from GVC case-study analysis, it is becoming clear that

increasing and sustaining value addition and upgrading processes over time may not be possible unless public and private governance structures and public/private actor incentive structures are aligned. This obviously becomes much more challenging in the context of globalised firms operating without effective global governance structures.

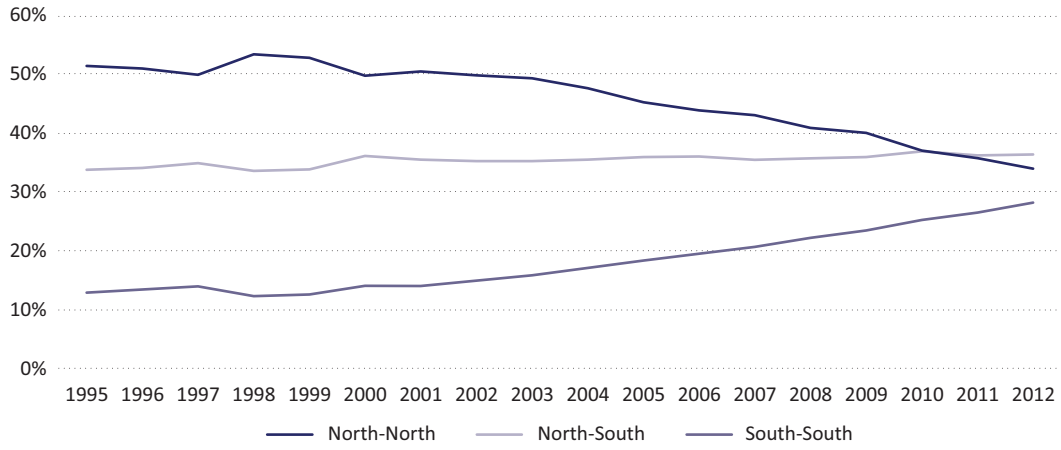
Simply reducing trade costs at the border (e.g. in the way of improved trade facilitation) is unlikely to alter the existing highly unequal distribution of value added. Cutting trade costs across the board could actually result in increased competition among developing countries in a 'race to the bottom' and engagement with the low value-added components of supply chains. It has been suggested that whether or not to actively promote GVCs is a strategic choice for policy-makers (OECD-WTO-UNCTAD 2013). However, the viability of existing global governance in managing value chains has not been given due consideration to date. Given the very real forces of convergence and divergence in operation within the global economy, there are concerns that the ascendency of GVCs might actually accentuate these processes (Keane and Basnett 2015).

18.6 The rise of developing countries in global trade: new demand drivers

The rising significance of developing countries within global trade is another factor that is likely to exert a strong future influence on GVC development. Almost half of global merchandise exports and about 40 per cent of world GDP are now attributable to developing countries. An important feature of this development is the rapidly expanding trade between developing countries: the average annual growth of South–South trade since 2000 has been 17 per cent, compared with world trade growth rate of 10 per cent. This has caused the relative significance of trade between developed countries (i.e. North–North trade) to decline from about 53 per cent in the late-1990s to just 34 per cent in 2012 (Figure 18.7).

Trade with fast-growing developing countries offers new opportunities for specialisation, efficiency gains, investment and export-market diversification. Some of the BRICS members, particularly China and India, now provide improved market access to LDCs. They have also become important sources of technical and financial assistance. Nevertheless, there are concerns that increased South–South trade

Figure 18.7 The relative significance of South–South trade is rising rapidly



Source: Razzaque and Gosset (2014).

has bypassed a large number of SSA countries and small states. The nature of trade patterns with emerging economies indicates that SSA countries and small states predominantly export primary commodities and largely import manufactured items. There is apprehension about this nature of specialisation within South–South trade.

However, the growing significance of developing countries within global-trading flows offers new opportunities for forming regional supply chains. It is widely recognised that most production networks and supply chains are regional in nature. For example, studies, including those undertaken by the Commonwealth Secretariat and UNCTAD, have identified the potential for developing regional supply chains in SSA and South Asia in such sectors as textiles and clothing, leather and leather products, and agroprocessing. As much as 40 per cent of intra-SSA trade takes place in manufacturing, indicating significant scope for developing regional production networks.

Another important aspect of the rise of developing countries is empirical evidence suggesting that new markets and growth centres are closely related to growth in neighbouring countries (e.g. Redding and Venables 2001; Moore 2015b). The growth of such countries as Nigeria and South Africa is thus likely to have a positive impact for neighbouring countries in SSA (Moore 2015b). Delivering inclusive regional value chains may therefore be a more achievable objective than the pursuit of GVCs, in some cases. For small economies and firms, regional value chains linking neighbouring countries may offer more sustainable growth opportunities and more manageable scales than global markets (Gereffi and Luo 2014).

18.7 Charting the way forward and concluding remarks

As the discussion in this chapter has made clear, advancing an inclusive GVC agenda faces a number of formidable challenges. In this regard, there is a need for a more nuanced approach and greater consideration of the unique development challenges faced by CF states. Ensuring more inclusive GVC participation requires greater consideration of the heterogeneity of capacity-constrained CF states. The development of a more appropriate global-trade support architecture must be considered in the context of a rapidly changing global-trading landscape.

18.7.1 Adapting to the new global-trading landscape

The rise of the global South offers opportunities for developing regional supply chains, as a result of the emergence of new growth poles and hubs of commercial activities. While the current international specialisation in which SSA and small states largely supply primary commodities to emerging Southern partners is of concern, there is some evidence of the potential to develop regional supply chains involving the manufacturing and agroprocessing sectors. Delivering inclusive regional value chains may be a more achievable objective than the pursuit of GVCs, in some cases, and deserves more attention (Kamau 2009; Brandt and Thun 2010; Navas-Alemán 2011; UNCTAD 2013).

18.7.2 Delivering more targeted aid-for-trade

The aid-for-trade support initiative has assisted many developing countries with their enhanced regional integration and improved trade facilitation efforts. However, the existing support mechanism needs to duly recognise the special and unique development challenges faced by small states. While there is evidence that aid-for-trade is effective in promoting trade facilitation, its impact on productive capacity (i.e. in generating export response from tradable sectors) is not clear.[11] Given the distinct characteristics of small states, support measures that are required to address similar

challenges elsewhere may not be suitable for them. For example, improving regional connectivity by building cross-border road and rail networks invariably has limited relevance for small island states. The following points should be noted:

- A narrow focus on trade facilitation measures, although necessary, will not be sufficient to induce more inclusive GVC development. A strong case can be made for small state-specific support measures in addition to innovative changes to existing mechanisms.
- The potential for value-chain development led by trade in services needs to be explored for countries with excessive trading costs.

18.7.3 Effectively governing global value chains

The governance of GVCs, including the relationships between lead firms and local suppliers, is an area that needs to be better understood in order to secure more inclusive GVC development; this encompasses the inclusion of firms in higher value-added activities within GVCs, as well as increasing domestic value added from existing GVC participation. The current pattern of highly unequal distribution of value added along GVCs, combined with declining value added for particular functions, is not conducive to the design of more inclusive approaches. For example:

- there are concerns regarding the development of local firms' technological capabilities and the achievement of social and economic upgrading processes over time, and the empirical evidence is mixed and highly context specific;[12]
- all governments are grappling with the balance between state and business interests and the appropriate alignment of incentive structures;
- unless aid-for-trade is better targeted at increasing bargaining power within GVCs, there are concerns that potential benefits may flow to those with power within the chain, not the intended beneficiaries (Mayer and Milberg 2013); and
- in the absence of effective global governance mechanisms, there are concerns about the creation of competitive incentive schemes, which can undermine, rather than promote, social-upgrading processes.

Notes

1 This chapter was prepared as part of the 2015 annual Commonwealth and Francophonie dialogue with the G20, convened by the Secretariats of the Commonwealth and La Francophonie, together with Turkey as G20 President and Chair of the G20 Development Working Group. It was presented on 14 April 2015 at the International Monetary Fund, Washington, DC.

2 Authors' estimates based on UNCTADstat data.

3 This chapter uses the Commonwealth Secretariat definition of small states. These are defined as independent states with populations of up to 1.5 million, with a few exceptions. This definition follows the World Bank small states classification, with some exclusions of countries that are classified as 'developed' by UNCTAD. This sample includes 49 countries, 31 of which are Commonwealth members.

4 Lanz and Maurer (2015) also point out that advances in statistics by enterprise characteristics and by mode of supply (i.e. taking into account the movement of labour and capital) are required in order to better understand trends.

5 For example, UNCTAD (2013) draws attention to equity and non-equity modes of international production.

6 Kraemer *et al.* (2011) found that for every US$299 iPod sold in the USA, the value captured from these products through assembly in China was around US$10, i.e. 3.3 per cent of the total value of the final product.

7 See also Gibbon and Ponte (2005) and Oxfam (2005).

8 According to Newman (2009), international coffee markets have become financialised, with firms dealing in physical commodities as well as other financial services and hence coming to resemble financial holding companies.

9 Keane (2012, 2014) argues that the coffee GVC in Uganda now resembles a captive value chain, given low supplier competence in the face of increasingly complex transactions and a transactional dependence on lead firms.

10 Report by Moongate Associates, available at: http://tppapparelcoalition.org/

uploads/021313_Moongate_Assoc_Global_Value_Chain_Report.pdf (accessed 20 March 2015).

11 For example, see Commonwealth Secretariat-supported analytical studies on aid-for-trade such as Razzaque and Te Velde (2013).

12 Barrientos *et al*. (2010) developed a conceptual framework to analyse economic and social upgrading across comparative GVC studies, as part of their work under the research consortium Capturing the Gains (http://www.capturingthegains.org/about/).

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Chapter 19

Growth Identification and Facilitation Framework: A pragmatic Approach for Promoting Economic Structural Transformation

Jiajun Xu[1]

New Structural Economics (NSE) is a framework proposed by Professor Justin Yifu Lin—the former, and first developing country, Chief Economist at the World Bank—for rethinking development.[2] NSE proposes that developing countries focus on '*what they can potentially do well*' (latent comparative advantages) based on '*what they have*' (current factor endowments). This stands in sharp contrast with mainstream development thinking, which is preoccupied with using developed countries as a benchmark for identifying '*what a developing country lacks*' and prescribing how developing countries should emulate developed countries regardless of their initial conditions.

Turning latent comparative advantages into competitive advantages entails policy-makers proactively deploying effective industrial policies in collaboration with the private sector to overcome first mover and coordination problems during the process of industrial upgrading. While the popular perception that most industrial policies fail miserably has tempted us into saying 'no' to all kinds of such policies, a more constructive approach is to delve deeper into comparative studies of both successes and failures in an effort to make prudent recommendations on how to make industrial policy work better in practice.[3] In short, NSE aims to bring new insights into development policy-making by helping policy-makers in developing countries unleash their potential with regard to industrial upgrading and economic structural transformation.

NSE aims to generate a better understanding of the complexities and nuances of industrial policy-making in an effort to make it work better. From the perspective of NSE, the effective implementation of industrial policy entails three essential elements. First, governments need to work together with the private sector to target industries compatible with the country's latent comparative advantages. Second, governments need to identify sector-specific binding constraints in a dynamic manner whose solution may go beyond the capacity of private firms themselves. Third, governments can play a facilitating role in mitigating the binding constraints and turning the latent comparative advantages into competitive advantages in the global economy (Lin, 2014).

To make the above insights implementable, NSE has proposed a practical policy tool—the Growth Identification and Facilitation Framework (GIFF)—to help policy-makers in catching-up developing countries to develop feasible and sharply focused policies in an effort to identify and unlock their latent comparative advantages to achieve structural transformation

(Lin and Monga, 2011). At the heart of the GIFF is the principle that developing countries should not focus on *what they do not have* but rather on *what they do have* in an effort to unleash their latent comparative advantages. The GIFF offers practical development paths to enable developing countries to follow their comparative advantage in their industrial development and to tap into the potential of advantages of '*backwardness*' in industrial upgrading in an effort to achieve sustained, dynamic growth.

The application of the baseline GIFF entails six steps (Lin, 2012b):

Step 1: Choosing the right target. Governments in developing countries can identify the list of tradable goods and services that have been produced for about 20 years in dynamically growing countries (so-called benchmark countries) with similar endowment structures and a per capita income that is about 100 to 300 per cent higher than their own (or that had a similar per capita income about 20 years ago).

Step 2: Removing binding constraints. Governments may give priority to those domestic private firms that have already entered spontaneously, and try to identify constraints to quality upgrading or further firm entry. Take action to remove these constraints.

Step 3: Attracting global investors. In industries where no domestic firms are currently present, or only a few domestic firms are doing exports, seek foreign direct investment (FDI) from countries examined in Step 1, or organise new firm incubation programmes.

Step 4: Scaling-up self-discoveries. Given that every country may have unique endowments, which may produce goods valuable for the market, and some new technologies/industries that may not have existed 20 years ago, in addition to the industries identified in Step 1 governments should pay attention to spontaneous self-discovery by private enterprises and give support to scale up successful private innovations in new industries.

Step 5: Recognising the power of industrial parks. In countries with poor infrastructure and bad business environments, special economic zones (SEZs) or industrial parks may be used to overcome barriers to firm entry, attract FDI and encourage industrial clusters.

Step 6: Providing limited incentives to the right industries. Governments may compensate pioneer firms identified above with tax incentives for a limited period; direct credits for investments; and access to foreign exchange.

While the six-step method is useful in that it offers a ready-made practical guide accessible to policy-makers, applying the GIFF is by no means a mechanical process. The above baseline GIFF has been applied to a series of country studies based primarily on desk research. The GIFF was first applied to the case of Nigeria by Justin Yifu Lin and Volker Treichel (Lin, 2012a). Later, the application of the GIFF was extended to small island economies (Lin and Dinh, 2014). The UN Industrial Development Organization (UNIDO) has proactively applied the GIFF to the case of Senegal (UNIDO, 2016). The pilot effort to apply the GIFF to least developed countries occurred in Uganda (Lin and Xu, 2016) and later was extended to Nepal (Xu and Hager, 2017). It is worth noting that these case studies are first-cut efforts, mainly serving an illustrative purpose. It is not intended that they will be used to demonstrate that the GIFF analysis has to stick to certain static methods

or indicators such as revealed comparative advantage and the ranking of export products.

Rather, GIFF analysis entails a *multi-stakeholder*, *interactive* and *pragmatic* approach to identifying latent comparative advantages and exploring feasible policy levers to mitigate binding constraints. It involves multiple stakeholders, including policy-makers, entrepreneurs, foreign investors, international buyers, zone developers, financial institutions, researchers and international development institutions. It is an interactive process: the GIFF shuns a top-down approach driven by bureaucrats or experts; rather, effective diagnosis and solution requires dynamic interactions of self-discovery among the public and private sectors as well as international and local actors. It is a pragmatic approach because it rejects a one-size-fits-all blueprint and embraces a tailored trial-and-error exploration of learning and experimentation. In short, the GIFF does not stick to any specific method, but rather represents a set of adaptive tools for identifying latent comparative advantages or binding constraints.

To refine and enrich the GIFF, the Center for New Structural Economics (CNSE) at Peking University, of which Professor Justin Yifu Lin is the Director, has been undertaking policy-focused and action-oriented projects in African countries such as Benin, Djibouti and Nigeria. Based on solid first-hand data collection and stakeholder engagement, we help governments analyse their factor endowments ('*what the country has*') and their latent comparative advantages ('*what the country can potentially do well*') and propose how the government can use Special Economic Zones (SEZs) to mitigate binding constraints on the path to economic transformation. These pilot projects can help distil success factors and sober lessons for refining the GIFF in a dynamic learning process.

Awareness that the GIFF analysis is a multi-stakeholder, interactive and pragmatic approach can help dispel some uninformed critiques or misunderstandings.

First, one critique of GIFF is that neither policy-makers nor researchers are able to 'pick the winners'. In other words, it is dangerous to choose the target industry by simply taking a mechanical step to select benchmark countries and benchmark sectors through the use of international trade data. This critique fails to understand that the first step of GIFF—choosing the right target—does not aim to *precisely* pin down viable sectors with latent comparative advantages in catching-up countries, but rather to identify potential 'flying geese' from more advanced economies and then make an *initial* assessment as to whether these flying geese can be viable in the catching-up countries.

Historical waves of industrial transfers have revealed a rule-of-thumb pattern that the gross domestic product per capita of benchmark countries is about 100 to 300 per cent higher than that of catching-up ones. This ratio is not something that is set in stone; rather, it serves as a safeguard against too ambitious goal-setting, which often results in the targeting off too advanced industries in too mature industrialised economies that defy the latent comparative advantages of the catching-up countries.

After identifying the potential flying geese, it is important to take a step further to examine *when* and *where* these manufacturers decide to relocate their production line. Analysis this of cannot simply rely on the numeric trade data alone; in-depth case studies are needed to uncover the firm-level decision-making process in an effort to obtain a better understanding of the kinds of firms that are more likely to go abroad and where they are likely to go. Special attention needs to be paid to the following aspects:

1. How will the automation mitigate the pressure of rising labour costs, hence postponing the relocation decision by labour-intensive light manufacturing firms?

2. How does the cluster-based economic geography in the benchmark countries exacerbate the coordination problem among small and medium-sized enterprises along the supply chain, compared with the vertically integrated firms?

3. How does the relocation decision by processing trade firms where global buyers often control the sales market differ from that by ordinary trade firms?

After identifying the potential flying geese and their likely destinations, the next step is to make an initial judgment on whether these products are in line with latent comparative advantages in the catching-up economies. Such preliminary assessment often involves a process of negation—that is, deleting those sectors that are unlikely to be *viable* in destination countries. First, labour and capital are two important factor costs, which can help in detecting sectors without latent comparative advantages. Sectors with latent comparative advantages are those with relatively lower factor costs but that suffer from high transaction costs as a result of poor hard and soft infrastructure. For instance, a labour-intensive garment firm will not be viable in a country with prohibitive labour costs.

Second, apart from labour and capital, it is essential also to take into account more tailored sector-specific factor endowments. For example, some fashionable products are very time-sensitive, requiring timely and reliable transportation. A landlocked poor country without transportation routes in place may encounter a hard binding constraint on firm entry and scaling-up, at least in the short run. More often than not, the private sector has the best knowledge about the sector-specific factor endowments. As such, it is desirable to bring the potential flying geese—that is, possible foreign investors—to conduct the in-depth feasibility study in the destination country. This can help generate a more thorough understanding of the pull and push factors regarding investing in a particular product in a specific geographical location.

A second critique of the GIFF is that it appears to ignore the growing trend of global value chains (GVCs) in international trade. This critique is based on the impression that the pilot country studies, based primarily on desk research, rely mainly on the UNComtrade database to come up with a list of tradable goods and services that have been produced for about 20 years in the benchmark countries. These data fail to capture the growing trend of GVCs, which means the trade structure is often misrepresented. The CNSE has well noted this limitation. To complement the UNComtrade data (i.e. sectors at the 4 or 6 digit code), the CNSE has drawn on databases on trade in value added in order to obtain a better understanding of a country's participation in GVCs. More importantly, the CNSE team has further conducted firm-level surveys to delve deeper into binding constraints along the value chain at the product level. This bottom-up approach complements numeric analysis on revealed comparative advantages based on trade databases.

Last but not least, another critique of GIFF is that it is too optimistic about the power of SEZs. The rationale for focusing on SEZs is that developing countries often suffer from poor overall soft and hard infrastructure. For example, administration is often riddled with inefficiency and corruption and transportation is in a poor state. Given poor initial conditions, it is difficult, if not impossible, to bring the overall nationwide environment to an acceptable level within a relatively short period of time. To break the vicious cycle, it is important to achieve a breakthrough in a demarcated area, given the limited resources at hand. Building on initial success, the pilot SEZs can play a catalytic role in stimulating economic reforms nationwide later on. Indeed, SEZs provide an opportunity for significant

small-scale trials that can enable a process of learning and experimentation among key stakeholders, including government, enterprises, zone developers and foreign investors.

Despite the huge potential of SEZs in terms of achieving quick wins and wider economic reforms, the GIFF does not suggest they represent a silver bullet. Rather, it accepts that not all SEZs deliver on their promise. The success of SEZs depends largely on how they are designed, run and managed. That is why the CNSE team has made persistent efforts to study the successes and failures of SEZs in order to obtain a better understanding of what works and why.

Following a multi-stakeholder, interactive and pragmatic process, the GIFF is a pragmatic tool for turning a trilemma (lack of manufacturing capability, confidence of international buyers and the necessary infrastructure and business environment) into a triple-win collaboration to facilitate the new wave of industrial transfer. It is hard to appreciate the value of the GIFF without putting it into the global perspective of industrial transfer in an era of globalisation. An integral part of Kaname Akamatsu's 'flying geese' model of Asian economic integration is the phenomenon whereby a region as a whole becomes more economically developed through a cascading process in which a more advanced country (the 'lead goose') transfers capital, technology and management skills to a less developed country (a 'follower goose') and so facilitates its economic structural transformation (Kojima, 2000). As wages have been increasing rapidly in China as average incomes rise, the pending relocation of Chinese light manufacturing presents a historical window of opportunity for catching-up countries to break into GVCs. China has 85 million jobs in light manufacturing; its upgrading to higher industries will leave a huge space for many low-income developing countries to enter a labour-intensive industrialisation development phase (Lin, 2012c).

Despite the tremendous opportunities for large-scale industrial transfer, however, the catching-up developing countries, African countries in particular, face basic challenges such as the so-called trilemma alluded to above. To overcome these challenges, developing country governments can take a proactive approach centring around SEZs/industrial parks, given the overall poor business environment. The strategy is to attract existing export-oriented light manufacturing firms that have the technological and managerial knowhow and the confidence of international buyers to relocate their production to SEZs/industrial parks in Africa. The aim is to create quick wins that produce a snowball effect, attracting FDI and domestic investment into these zones and parks and others that are inspired by them. Such success stories serve as inspiration and experience for other developing countries to kick-start their own sustainable and inclusive industrialisation.

In a nutshell, the GIFF is an instrument for taking a *multi-stakeholder*, *interactive* and *pragmatic* approach to identifying latent comparative advantages and exploring feasible policy levers to mitigate binding constraints in an effort to help developing countries achieve economic structural transformation. Applying the GIFF involves a process of constant refinements, as it aims to tackle practical development challenges on the ground that defy any universal standardised formula. A GIFF study is not an ordinary research report that will go to the shelf. Rather, conducting such a GIFF study entails creating an integrated platform for engaging in a journey of co-discovery of latent comparative advantages and binding constraints as well as co-generation of tailored and feasible policy recommendations. The shared goal is to unleash the potential

for economic structural transformation among key stakeholders, including policy-makers, entrepreneurs, international buyers, international organisations and researchers in the catching-up developing countries and abroad.

Notes

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2 NSE proposes using a neoclassical economic approach to study the determinants of economic structure, including technology, industry, finance, infrastructure and institutions, and their evolution in the process of economic development. The starting point of analysis is an economy's endowments and its structure, which are given at any specific time and changeable over time. From the perspective of NSE, the best way to achieve dynamic, inclusive and sustainable growth in a country is for the country to develop its industry according to the comparative advantage determined by its endowments in a market economy with a facilitating state. As the third wave of development thinking, NSE aims to advance theoretical innovations in economics discipline by systematically analysing structural differences between advanced economies and developing economies (Lin, 2012a).

3 Most industrial policies in the past have failed because they have involved supporting industries that were against the latent comparative advantages and thus were not going to be viable in the setting in which they were promoted.

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The Commonwealth

Leveraging the power of trade to expand formal employment opportunities, generate greater value addition, assist diversification processes and develop productive capabilities is an aspiration of all Commonwealth governments. These objectives were conveyed clearly at the Commonwealth Trade Ministers Meeting convened in March 2017.

There are areas of mutual interest and where enhanced co-ordination between member countries could enhance trade gains. Because the ability to transmit tacit knowledge through Commonwealth trade, finance and investment networks is inherent in the trade cost advantage shared by members - which exists without formal collaboration – it suggests the sharing of already known best practice could further enhance the gains from more concerted action.

In order to engage effectively with contemporary trade, which manifests as global value chains (GVCs), it is incumbent on governments to better understand corporate strategies. In this publication, as well as taking stock of past performance, we reflect on potential dynamics and future fragmentation processes.

The chapters collated in this publication provide for a more careful examination of the GVCs within which our members specialise across the spectrum of manufacturing, services, commodity trade, and within the oceans economy. An inductive approach is adopted which involves learning from experiences across the Commonwealth of existing GVC participation, in view of our membership comprising a majority of small states, 45 oceans states and around one-fifth least developed countries.

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