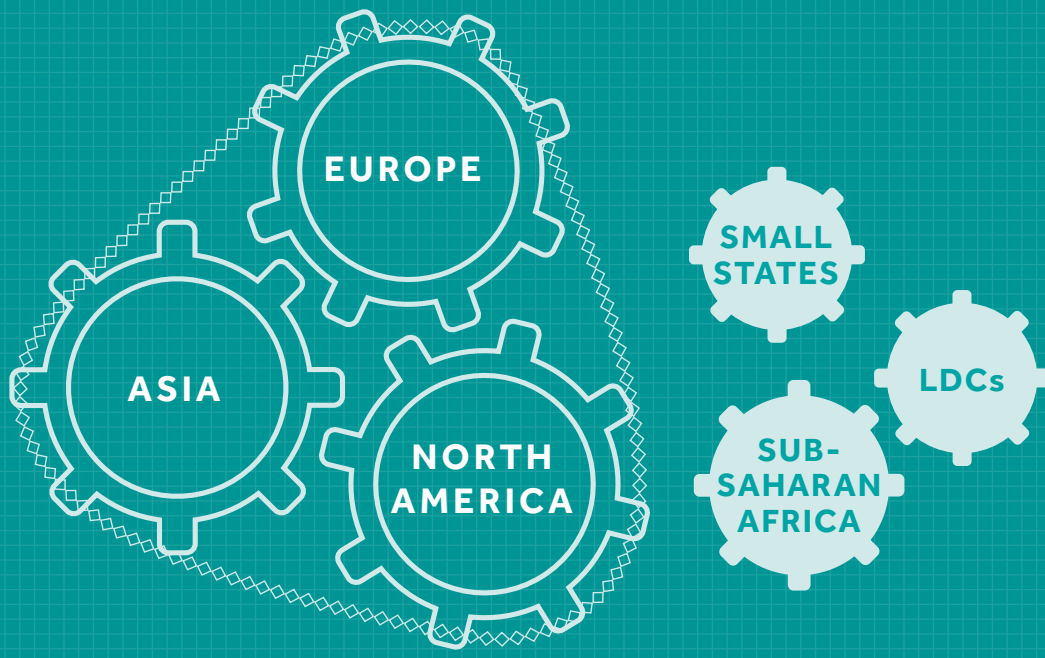
Future Fragmentation Processes

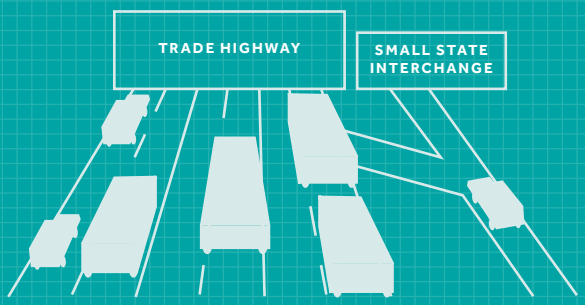
Effectively Engaging with the Ascendency of Global Value Chains

Section 3: Sectoral Developments



TRADE IS INDISPENSABLE TO THE ACHIEVEMENT OF THE SUSTAINABLE DEVELOPMENT GOALS.

SMALL STATES' TRADE CHALLENGES REQUIRE INNOVATIVE AND HETERODOX SOLUTIONS.



SOURCE: COMMONWEALTH TRADE REVIEW (2015)

The Commonwealth Secretariat's work on international trade includes:

- Policy and global advocacy, including on the changing dynamics arising within the global economy affecting member states, multilateral and regional trade negotiations, the trade-related implementation agenda of the Sustainable Development Goals, emerging trade issues, and trade and development implications of Brexit.
- Technical assistance to member countries for improving their trade competitiveness in global markets, especially through market access, export development strategies, enhancing the development and exports of services, and trade facilitation.
- Long-term capacity-building support to African, Caribbean and Pacific (ACP) countries through the Hubs and Spokes project, which is a joint initiative of the Commonwealth Secretariat, the European Union, the Organisation Internationale de la Francophonie and the ACP Secretariat.

Executive Summary

Context

Profound shifts in the trade–growth nexus have occurred in recent years, with implications for conventional trade-led growth models. Since the Great Recession, which began in 2008 after the global financial crisis (GFC), policy-makers around the world have been grappling with the profound implications of the ascendency of global value chains (GVCs) for conventional trade policy-making. This is because the principles and models that have underpinned trade policy-making in the past are based on trade in final goods between separate firms based in sovereign states. However, it is increasingly obvious that is far from the case: new forms of trading relationships are arising as a result of profound technological advances, inducing heightened connectivity to global markets.

The unprecedented synchronised global trade shock of 2008–09 revealed the deeply interconnected nature of global trade, investment and finance. As a consequence, international institutions with a mandate for the oversight and supervision of global trade were charged by the G20 with reaching a better understanding of the mechanisms through which the crisis occurred. The result has been the construction of new quantitative databases that measure trade in value added. By identifying the contribution of imports to final goods trade, these new databases provide a more realistic picture of trade patterns. They also help to improve how we account for growth induced through trade.

However, although these new databases provide constructive insights, it is simply not possible to obtain a complete understanding of the operation of GVCs through one type of research method. Data are missing for many Commonwealth countries. Other information gaps persist, not least in view of the tightly co-ordinated nature of global trade, which has arisen as production has been fragmented and dispersed through the networks of transnational firms. All governments continue to grapple with this reality, which comes with a realisation that many of the conventional tools at their disposal to influence participation, as well as outcomes, have been profoundly altered.

Within the context of the current global trade slowdown, new leverage points and more effective dialogue mechanisms are required to more effectively realise the potential gains from trading within GVCs, which are the new trade reality. Management of the disruptive forces unleashed by new technologies, avoidance of future financial crises and advancement of public policy objectives in view of the universally adopted Sustainable Development Goals

(SDGs) requires reflection on the appropriateness of regulatory frameworks, within as well as across countries.

The potential to further leverage the 'Commonwealth Effect'[1] on contemporary trade and investment flows and linkages requires further reflection on the potential trajectory of future fragmentation processes. New drivers of GVCs are likely to emerge at the regional level and within sectors where firms are just beginning their internationalisation strategies.

In **Section Three** of this publication, we reflect on the sectoral developments and changing dynamics affecting some of the major value chains in which many Commonwealth members trade, particularly developing country members.

The choice of sectors referred to in this briefing is not meant to be exhaustive. Instead, the sectors are illustrative of the global fragmentation processes which have arisen in recent years and continue to unfold. Changing dynamics are described. These include the emergence of new entrants within sectors, including tiers of suppliers. New technologies being deployed are altering production structures. Methods of co-ordination and control are also changing. All of the case studies described demonstrate how, on one hand, trade has become fragmented and organised within GVCs, but also more co-ordinated by firms.

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, as well as focusing on different types of value chain engagement, including on an intra-regional basis. However, these general conclusions are not intended to obscure the need for much more detailed sector- and firm-specific analyses and policy. These are necessary to adapt to the new trade reality and enhance gains from GVC trade - trade in tasks – with a view to enabling more opportunities for export diversification, economic resilience and value addition.

Highlights

The recycling of comparative advantages between trading partners located within the current dominant hubs of global economic activity (Asia, the European Union 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 within manufacturing sectors will be known as the 'Flying Dragon'. The evidence presented in the following sectoral case-studies demonstrate how similar processes are now being replicated across other regions and sectors in the Commonwealth.

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 following case-studies highlight 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.

Commodity price volatility

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. In the chapter by **Struthers**, the changing dynamics within commodity markets and increasing price volatility are analysed using a Principal–Agent framework. Adopting this form of micro-perspective helps to shed light on the role of informational asymmetries within trading relationships and how they 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 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, including greater consideration of contractual arrangements, price-risk management instruments and the creation of commodity exchanges within producing countries.

How does participation in international value chains matter to African farmers?

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 to the traditional understanding of the achievement of structural economic transformation across sectors. It 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 to shed light on the specific policies and the 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 agricultural sector.

Global value chain participation and development: the experience of Ghana's pineapple export 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. She compares experiences between 1984 to 2004 and 2005 to 2013. This chapter illustrates how relationships between second- and third-tier suppliers and firms have been influenced by institutional changes. It describes how initially participation within the pineapple value chain 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.

Emerging tiers of suppliers and implications for upgrading in the cut-flower global value chain

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. These aspects are explored in the chapter by **Keane,** which reflects 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, which 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 requires close linkages between the public and private sectors within a type of innovation system, which requires adaption to cross-border linkages between firms.

The global value chain in canned tuna, the international trade regime and implementation of Sustainable Development Goal 14

In the chapter by **Campling**, the interactions between international trade regimes, the tuna GVC and the attainment of Sustainable Development Goal 14, Life Below Water, by small island developing states (SIDS) are explored. 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 (SDT) – a number of areas in which actions could be taken to increase the economic benefits derived from this sector are outlined.

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 subprocesses which can be undertaken in parallel.

Clothing value chains and sub-Saharan Africa: global exports, regional dynamics and industrial development outcomes

The chapter by **Staritz, Morris and Plank** describes how the rise of textiles and clothing 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 FDIs. However, 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 included in different value chain channels, the political–economy dynamics driving this and the related sustainability and development

implications. Within this chapter, different types of firm in the textiles and clothing industry – transnational, regional, diaspora and indigenous – are identified in SSA and their implications for conventional upgrading processes, explored.

The automotive GVC: policy implications for developing economies

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 to the development of specific capabilities within the sector.

Tourism, trade in services and global value chains

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 service activities in the tourism sector including online services provided by tour agents, all alternative forms of services supplied under the General Agreement on Trade in Services (GATS) framework. Although 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 the consideration of the linkages between different modes of services supply.

Note

1 See Commonwealth Trade Review (2015).

Chapter 7

Commodity Price Volatility: An Evolving Principal–Agent Problem

John Struthers[1]

Abstract

This paper 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 paper 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 paper 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 paper 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 these alternative interventions. Finally, with

the aid of a short case study of the Ethiopian Commodity Exchange (ECX; see Appendix 1.1), 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 interaction between four entities: *institutions*, *governments*, *markets* and *individuals*.

The emphasis of this paper 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 the 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 *principal*), which would negotiate transactions either directly with farmers (*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;

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 paper, it is worth debating whether each actor in the value chain will benefit equally from the existence of a futures or option 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 GVC-RI: 20 most remote and most proximate countries

*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* (see Appendix 1.1, and 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 paper 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 paper'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 paper 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 such 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 paper 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, Hoddinott and Woldehanna (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, Winter-Nelson and Garcia (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?

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Abstract[3]

The traditional understanding is that structural economic transformation takes place across sectors. Instead, this paper 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 Kenya, Ghana and Zambia, the results help to shed light on the specific policies and types of contractual arrangements which 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 and particularly in the agricultural sector.

8.1 Introduction

What is the role that Global value chains (GVCs) play in driving economic transformation? Can this lead to sustained productivity growth that transforms the economy through changes both within and across sectors? And how can GVCs help Africa develop, not only by industrialising and moving away from existing activities, but also by doing better in areas of existing comparative advantage, such as the agricultural sector? To answer these questions, this paper begins with the example of a maize farmer in Uganda who uses seeds from Zambia, fertilisers and extension services from Kenya, testing services from South Africa, and bags from China to sell her product to supermarkets in Saudi Arabia and Tanzania. The same farmer might also sell her goods to a domestic firm that in turn supplies them to national and international markets or international lead firms.[4] Participation in GVCs in this case implies 'importing to export' and allows access to imported skills, technology and critical services that offer farmers and firms the opportunity to increase productivity, specialise in bundles of tasks within a larger international production process, and sell agricultural products to regional and global markets.

Participation in GVCs can expand opportunities to add value and increase productivity. These are types of upgrading. It can also facilitate the shift to activities that are based on new, non-routine tasks that require a high level of interpersonal interactions, networking and technological innovation. Therefore, removing the barriers at different points along the value chain and integrating foreign know-how and technology can have

a profound transformative impact on the structure of the agriculture sector, at the farm, processing and distribution levels.

Given this context, in this paper a broad interpretation of the process of structural economic transformation is adopted. Whereas traditional views emphasise the reallocation of production factors or resources between sectors (Box 8.1),[5] the approach adopted in this paper, which summarises the results of a series of pilot projects, instead assesses the extent to which participation in GVCs contributes to increasing productivity, upgrading and the stimulation of organisational change within sectors. These issues are particularly relevant in an increasingly globalised and specialised world where a more specific focus on trade in tasks has invariably become more meaningful.

As part of the pilot surveys undertaken for this project, a total of 654 farm households, 41 key informants, such as processors and brewers, and 8 stakeholders were interviewed in Kenya, Ghana and Zambia.

8.2 From well-established value chains in maize to emerging networks in cassava and sorghum

8.2.1 Well-established value chains in maize

The maize sector is a well-organised segment with complex structures and a multitude of private and public sector players. Not only is maize an important staple food in most African countries, it also remains a key input to milling, stock feed making and the production of non-alcoholic drinks, beers, breakfast cereals and snacks. The finished products from maize, such as beer, non-alcoholic drinks (e.g. maheu) and breakfast cereals, can be found in local retail outlets and large supermarket chains in the three countries. The governments in Kenya and Zambia have invested heavily in the sector and there are clear backward and forward linkages with the various players from the private, public and third sectors (Figure 8.1).

Maize is an important crop across Africa, including our sample of countries. Zambia's complex maize value chain (depicted in Figure 8.1) shows that key input suppliers include agrodealers, non-governmental organisations (NGOs), the government, research institutions, seed companies, Zambia National Farmers Union (ZNFU), farmers' co-operative societies and private companies. Many of these input suppliers also provide extension services to farmers. It is important to keep in mind that these inputs are provided not only to maize producers (farmers) but also to the Food Reserve Agency (FRA), which buys and sells maize to maintain national strategic reserves. The maize produce is taken up by small- or large-scale aggregators or wholesalers. Often, maize goes through different marketing platforms or commodity holding companies which include, inter alia, Zambia Agricultural Commodities Exchange (ZAMACE) and the Zambia Grain Traders Association. It then goes to processors and distributors, which include small-scale millers in small towns and large-scale millers and stock feed manufacturers. Food processors include companies such as Yoyo Foods and Trade Kings, which make snacks, breakfast cereals and non-alcoholic drinks, such as maheu. Breweries (Zambia Breweries, National Breweries and Mukwa Breweries) also process maize to manufacture clear and opaque beer. Most of the maize-based products are consumed domestically, but some products such as maize grain and maheu are exported to regional markets.

Although the government plays an important role in facilitating linkages in the examined countries, in several circumstances government measures seem to hamper competition in the maize sector and hold up the emergence of value chains. For example, in Kenya, the government plays an important role in creating strategic food reserves: the National Cereals

Box 8.1

Structural transformation and Africa's participation in international value chains – key points emerging from recent literature

The traditional view considers structural change to be fundamentally dependent on modifications in the relative importance of different sectors over time, as measured by their share of output or employment. However, more recent literature on structural transformation stresses the role that productivity growth *within sectors* can play and the potential of moving factors of production *between firms within sectors* (McMillan and Rodrik 2012). This can be achieved through (i) functional upgrading – moving to higher-value-added tasks – and (ii) process upgrading – specialising in the tasks and activities of comparative advantage and putting more technology, know-how and auxiliary services into these tasks, which will ultimately translate into value addition and higher productivity. In addition to value addition and productivity, functional and process upgrading can also facilitate a shift to activities based on new, non-routine tasks that require a higher level of interpersonal interactions, networking and technological innovation. This suggests that improvements and shifts in production within sectors are an important element of development and that transitioning from an agricultural to a service-based economy or from food to cash crops is not the only avenue to sustainable growth.

Recent literature demonstrates the strong growth linkages and multiplier effects of agricultural growth to non-agricultural sectors (Dorosh *et al.* 2003). Indeed, a large share of manufacturing in the early stages of development is related to agriculture, and there is an increasing recognition in the literature that a focus on agricultural growth for development can not only increase farm household incomes but also have significant effects on non-farm household incomes, whereas a focus on industrial growth alone can exclude rural households and communities from the benefits of growth (de Janvry and Sadoulet 2011; Timmer 2009). Moreover, it has been shown that a movement towards agroprocessing, or agri-industry in general, can lead to even greater increases in farm and non-farm household incomes, as well as a number of spillover effects, including productivity gains and poverty reduction. Harnessing the transformative power of existing sectors can be an effective engine for growth, especially in late-developing countries in Africa, where countries' comparative advantage in agriculture represents a path to export-led growth in the early stages of development.

Globalisation has led to rapid growth in the demand for agricultural exports, particularly for higher-value products, which presents an opportunity for developing countries to engage in functional and process upgrading within their agricultural sectors in order to meet this demand while also providing the potential for them to import food as well. Emerging, co-ordinated global supply chains have unleashed the transformative power of regional and international agricultural markets and integrating producers and firms into these value chains will play a key role in supporting structural change in developing countries. Finally, the ability of late industrialisers to benefit from agri-industry and other 'nuanced' forms of structural transformation opportunities will depend on key

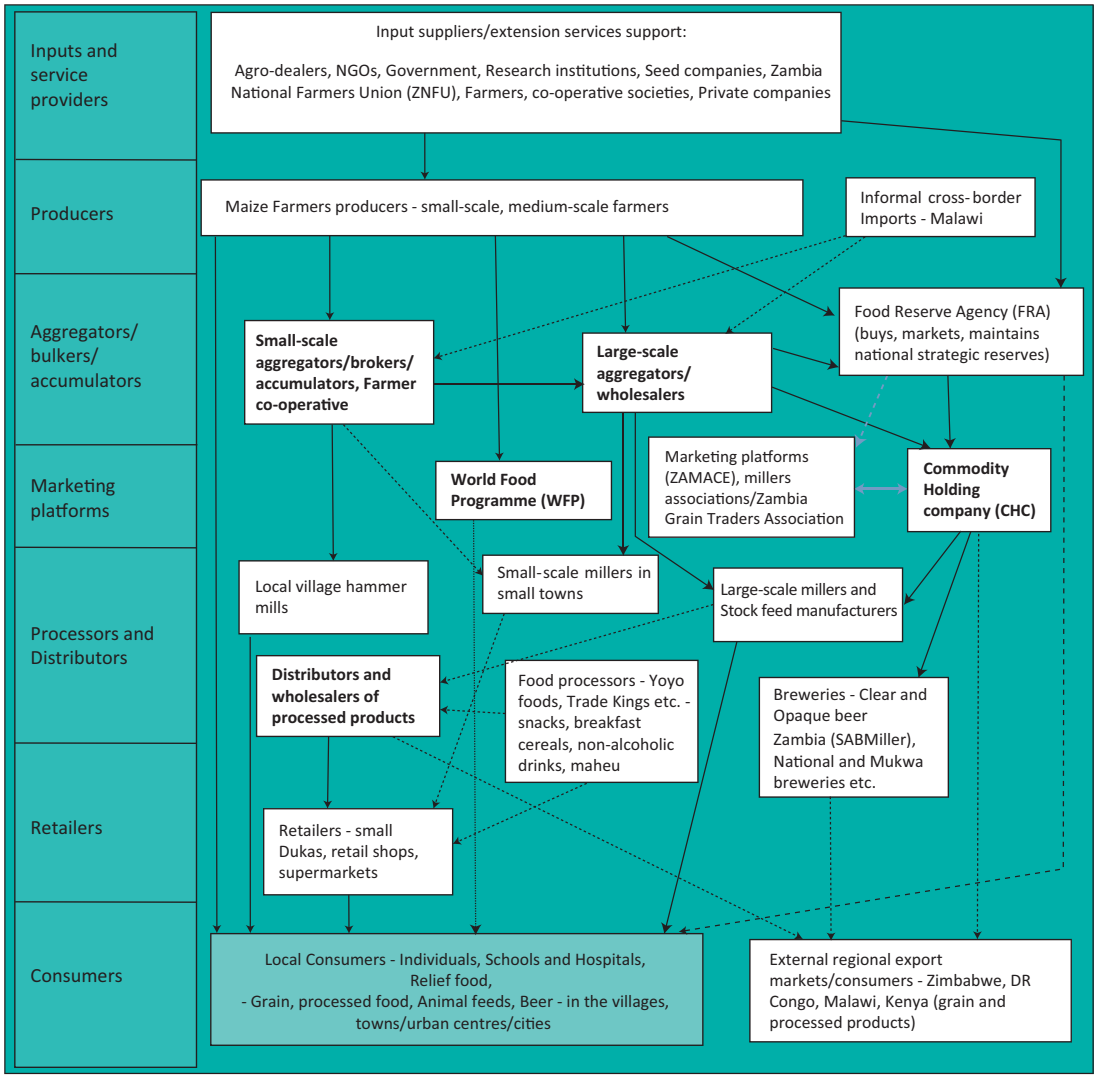
(*Continued*)

Box 8.1

Structural transformation and Africa's participation in international value chains – key points emerging from recent literature (*Continued*)

drivers, including trade in tasks, agglomeration and firm capabilities. By linking into international production networks, African countries can become established in a specific section of a product's value chain without requiring all the upstream capabilities to be in place. Through participation in value chains, countries and firms in Africa can acquire new capabilities that make it possible to upgrade, i.e. to capture a higher share of the value added in international value chains.

Figure 8.1 Maize value chain in Zambia



and Produce Board (NCPB) buys excess maize at the time of harvest and imports maize in case of deficit, and offers storage and drying services to farmers. Similarly, in Zambia, the government has strategic objectives for the sector – including food security – but the instruments it uses often have adverse impacts on the ability of farmers to integrate into value chains (and upgrade) and they also rarely deliver on the overall objectives.

In deciding on future maize policy, it is important for countries to recognise that achieving domestic food security is not opposed to and better integrated GVCs and export growth, nor are they mutually exclusive; they could actually be complementary in an improved policy environment. With a clear commitment to allowing maize sector participants to access foreign markets, there would be good reason for established and emerging commercial farms to re-enter maize production. According to industry sources in Zambia, these farms could fairly easily produce enough to provide the basis for export development but also create a buffer stock in case of drought. Smallholders would also benefit from clear market signals including timely and competitive payments associated with export development. On the other hand, without a firm commitment from the government to create an environment conducive to entrepreneurship in the agricultural sector, there is little incentive for small or large producers to make on-farm improvements or for agribusiness firms to invest in the kind of input supply and marketing systems needed for many African countries to ensure domestic food security or to become the 'reliable grain baskets' that policy-makers and other sector participants have long dreamed of.

8.2.2 Emerging value chains in cassava and sorghum

The potential of forming cassava value chains is immense but insufficiently explored. This drought-tolerant crop has the potential to be processed into a number of products that can also support other value chains in many African countries. Although cassava commercialisation has seen a lot of success in some African countries, such as Mozambique, the potential of this crop remains largely unexplored. For instance, Zambia has all the right ingredients to commercialise cassava and move away from reliance on maize but limited progress has been made so far in this regard (see Box 8.2). In Ghana, however, cassava is already one of the country's staple crops with huge market potential and is used in the production of a number of local foods including *gari*, *kokonte*, *fufu* and *agbelima*.

The cassava value chain in Ghana is dense (see Figure 8.2). It consists of various stakeholders, including inputs and service providers, producers (farmers), aggregators, processors, distributors, retailers and consumers. Inputs and service providers also give extension services support. Some of these service providers include the Ministry of Food and Agriculture (MOFA), the Roots and Tubers Improvement and Marketing Programme (RTMP), NGOs, cassava processors and breweries. Producers include small- and medium-scale farmers, farmer-based organisations and cassava-farming commercial estates (Caltech Ventures) that supply cassava to a mix of small and medium-sized enterprise (SME) and larger processors, cassava flour processors (Caltech Ventures, Datco) and cassava starch processors (Ayensu Starch). Cassava uptake is done by various buyers, which include bakeries, wood product manufacturers (cassava plywood glue), spirit producers (ethanol) and breweries (cassava beer). The final product is mostly found on the local market, while some of it is exported.

More recently, the government, NGOs and the private sector in Zambia have taken some initiatives to develop cassava value chains. The government has signalled interest in setting up a cassava value chain partnership that includes

Box 8.2

Cassava value chains in Zambia can help the diversification process

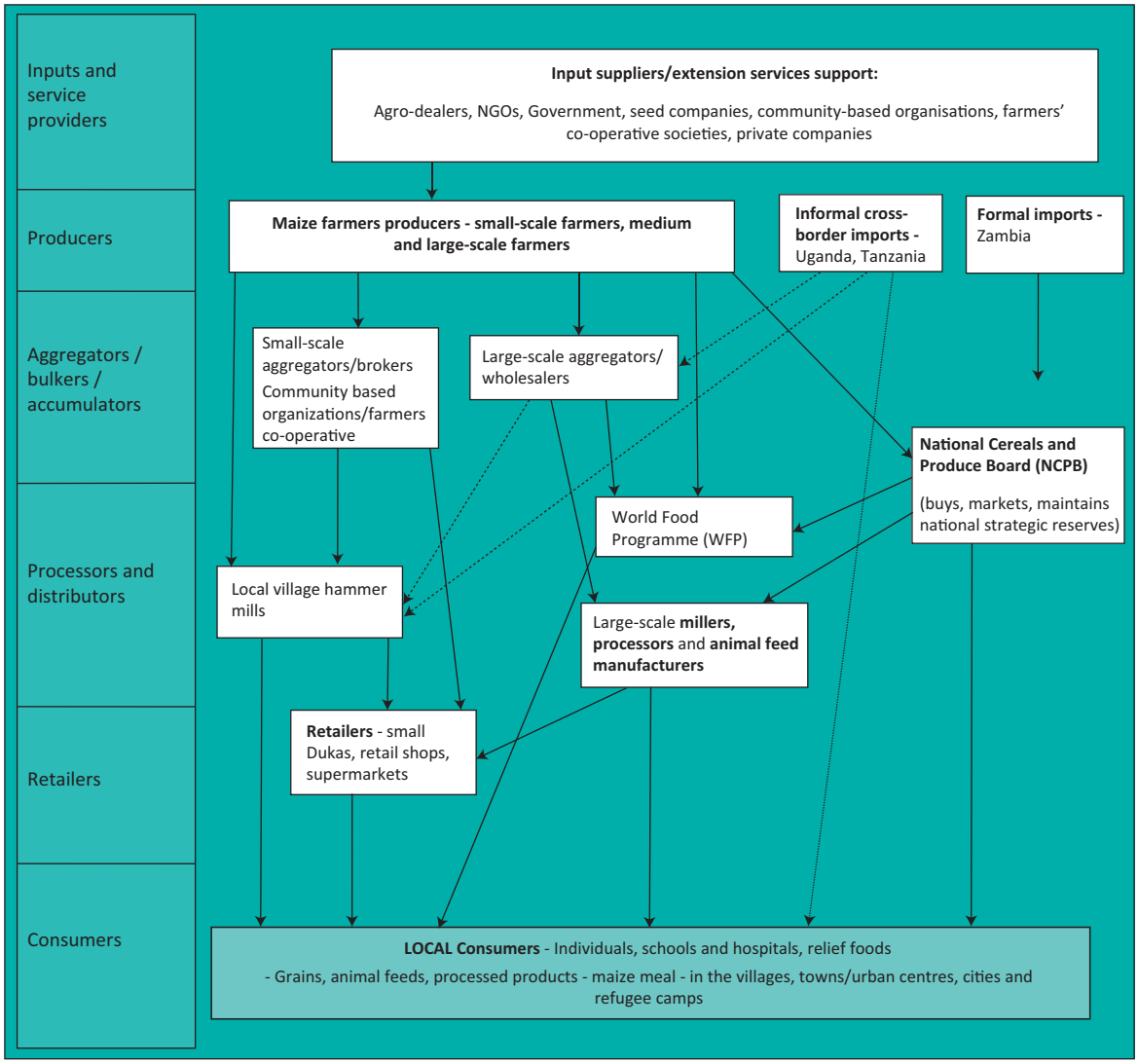
Zambia's economy relies heavily on commodities, with copper constituting 85 per cent of the country's exports.[6] This dependence on commodities has made Zambia susceptible to external and internal shocks. In recent years, revenues from copper exports have gone down drastically because of a global trend of falling commodity prices and China's growth slowdown. The agricultural sector holds a lot of promise in helping Zambia diversify its export base. However, Zambia relies heavily on maize, making it the dominant crop in terms of production, consumption and exports. Given the importance of maize in Zambia's economic and political landscape, using the agricultural sector to catalyse economic diversification has been challenging in the past. However, because of the strong dependence of maize on rainfall, maize production has remained volatile in recent years; hampered by dry conditions related to El Niño, this has resulted in pockets of food insecurity in parts of Zambia and prompted import of maize from neighbouring countries.

These factors have led to a renewed interest in alternative drought-tolerant crops such as cassava. Cassava can be an important driver of diversification in Zambia and promises to open up new sectors for development. This is for various reasons, which include cassava as an input into new products, interest from the government in promoting it as a *food security* crop and involvement by the private sector, which sees commercialisation and export potential. Cassava can lead to densification of value chains, as it can be used as an input for various products and processes, which include, inter alia, brewing, metal extraction (copper, gold and cobalt), ethanol production, starch making and animal stock feed.[7] Densification would lead to more and better domestic jobs and help engage more local firms in regional or global value chains. At the same time, it would promote economic and social upgrading; for example, using cassava starch during the copper extraction process is not only more cost-effective but also environmentally friendlier than other methods of extraction.

relevant government departments, processors and manufacturers of starch or high-quality cassava flour (HQCF), financial institutions, researchers and seed producers.

The private sector is taking several initiatives to commercialise cassava. Premiercon (a cassava starch processing company) is now at the forefront of organising farmers into clusters in the main cassava-growing areas of Zambia (Luapula and North-Western provinces) and linking them to the market. Premiercon plans to set up seven processing plants and work with the district cassava-processing associations and other district co-operatives. It is also working with the International Institute of Tropical Agriculture (IITA) and a private seed producer to multiply the required planting material. This collaboration will help organise farmers and streamline cassava into a viable commercial crop and bring it on board to external markets. One of Premiercon's largest buyers will be a copper-mining company, Kalumbila Minerals, which is planning to replace cassava starch, currently imported from Australia, with domestic sources. Zambian Breweries (ZB) is another processor with a keen eye on the cassava value chain. However, ZB faces many

Figure 8.2 Cassava value chain in Ghana



logistical challenges. For example, because cassava is highly perishable and there is a lack of adequate processing, storage and brewing facilities in Zambia, ZB sends the cassava harvested from within Zambia to Angola for brewing, and the beer then comes back into Zambia for packaging and distribution.

Sorghum value chains are complex and face a fair share of challenges. Farmers in Kenya cite impediments such as taxes on sorghum that distort competition in favour of other crops, or crop failure due to pests or bird attacks. However, there is emerging demand for sorghum in the beer industry, with potential in the production of both clear and opaque beers. Sorghum is also used in stock feed, with a high potential in this growing sector.

Sorghum seems to have a clear forward linkage with a particular processor in each country. For example, East African Breweries Limited is the main buyer for sorghum in Kenya. The government is supporting the development of value chains in sorghum and cassava, as these drought-tolerant crops can play an important role in poverty eradication. In Zambia, however, because of inadequate processing,

ZB sends the sorghum harvested to Zimbabwe for malting. As in the case for cassava, it is brought back into Zambia for packaging and distribution.

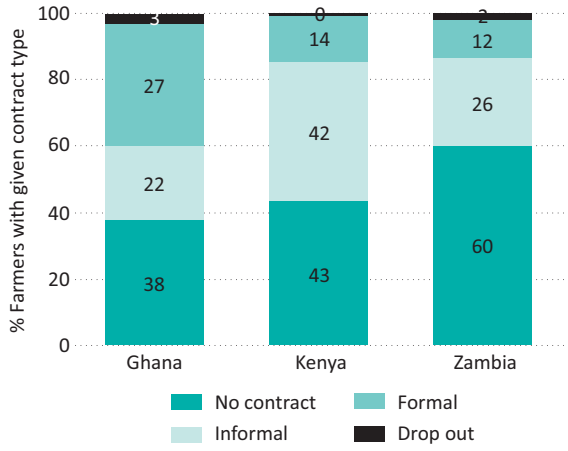
Cassava and sorghum are emerging value chains. Governments are interested in their development mainly to eradicate poverty. Both sorghum and cassava have the potential to be the next frontier crops to mitigate the impacts of climate change. Both crops are used by farmers as a 'backup' crop. Farmers keep cassava in the ground, like an underground bank account, that can be withdrawn from when money is needed promptly, such as for weddings, funerals, school fees or Christmas. High-starch varieties of cassava are critical for efficient starch and flour production, yet farmers are reportedly often reluctant to invest in such varieties, as farmers' incentives over the years have been distorted in favour of maize production by various national policies.

8.3 What contractual arrangements dominate the agriculture value chains landscape in Africa?

The contractual arrangements between farmers and buyers in maize, cassava and sorghum vary across the countries. Our pilot surveys indicate that Ghana has the highest proportion of farmers with informal agreements with a buyer. Kenya exhibits the highest proportion of farmers with a written contract, while Zambia displays the lowest incidence of contract farmers.

Informal arrangements dominate the contractual landscape in Ghana, with 62 per cent of all contracts reported to be off the record. By contrast, only 20 per cent of contracts are informal in Kenya and 31 per cent in Zambia (Figure 8.3). Explanations received from Zambian non-contract farmers highlight two key issues: lack of knowledge of

Figure 8.3 Farmers by contract type (%)



any buyers and lack of trust in engaging with intermediaries. Except for Kenya, female-led households are found predominantly in the informal and non-contract groups (Figure 8.4). Drop outs (those who left contractual arrangements), were limited across all countries and particularly so in Kenya.

Informal arrangements may be negotiated directly by farmers or indirectly by a co-operative or an association on behalf of its members, and may involve establishing linkages with or facilitating access to processors or large buyers who sell to processors. While the co-operatives or associations usually enter into some form of written contract with the processors and the buyers (without

Figure 8.4 Female-led households by contract type (%)

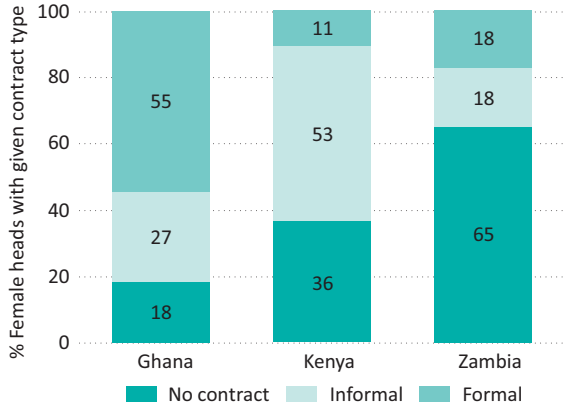
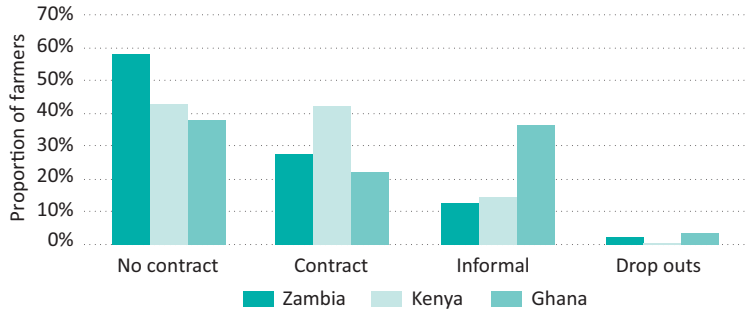


Figure 8.5 Contractual arrangements by country



covering all aspects of the arrangements), the individual arrangements are often verbal. A common practice is for farmers to have a loan arrangement with a buyer, or a preferential understanding to sell their products to a certain broker.

8.4 Farmers in agriculture value chains in Africa – key characteristics of contract farmers, non-participants and dropouts

As part of the pilot surveys undertaken for this project, a total of 654 farm households, 41 key informants, such as processors and brewers, and 8 stakeholders were interviewed in Kenya, Ghana and Zambia (see Figure 8.5 for details on the contractual arrangements by country).[8]

Key findings emerging from the interviews are summarised below:

- The sampled farmers in Ghana seem to be more experienced than those in Kenya and Zambia, with more than half of the respondents engaged in farming for between 10 and 30 years. By contrast, in Kenya, almost half of the respondents (46 per cent) have been in farming for less than 10 years.
- While 22 per cent of the respondents in Kenya farm strictly for subsistence and only 15 per cent are pursuing farming as a business, in Ghana and Zambia more than 30 per cent of respondents were motivated to take up farming as a business opportunity.
- A common denominator across farmers in all the countries examined is that most households (in general, more than 70 per cent) had other family members involved in farming, highlighting that family remains an important source of labour.
- In Zambia, about 75 per cent of all respondents get half or more of their total household incomes from farming; others complement their earning with income from casual labour arrangements (21 per cent) or trade (16 per cent).
- In all countries, the majority of the farmers interviewed have primary or secondary education.

8.5 Transformative impact of contractual arrangements?

As expected, farmers under contract seem to have *better access to inputs and technologies*, from either the outgrower company or other external sources (Table 8.1). The majority of surveyed contract farmers (about 70 per cent) reported benefits from input cost reduction (increase in disposable income) as a result of their contractual arrangement. In all countries, contract farmers received inputs

Table 8.1 Usage of inputs and technology: contract versus non-contract farmers (%)

Type of input or technology	Ghana		Kenya		Zambia	
	Non-contract	Contract	Non-contract	Contract	Non-contract	Contract
Using technology	92	91	65	80	41	69
Receiving more than half of maize seeds from outgrower	12	47	11	40	18	48
Receiving more than half of maize seeds from other external source	2	21	69	69	16	40
Using fertiliser to grow maize	73	77	60	83	89	97
Receiving more than half of fertiliser (to grow maize) from external source (incl. outgrower)	31	86	73	60	6	59
Using herbicide/pesticide to grow maize	36	39	24	62	23	53

Table 8.2 Support received by contract farmers (%)

Type of support	Ghana	Kenya	Zambia
Seeds and planting material	92	69	81
Fertiliser	12	37	68
Pesticide	2	74	24
Tractor service	73	50	24
Extension services	31	48	12

from contract providers or intermediaries. In Kenya, farmers on a contract had access to better technology, saw a higher increase in yield and increased profits more than farmers not on a contract. Often, the distribution of inputs is supplemented by the provision of market information and the dissemination of technical knowledge.

The *support received under contract* varies between countries. However, most of the interviewed farmers seem to receive some kind of support, especially in the form of seeds/planting material (Table 8.2).

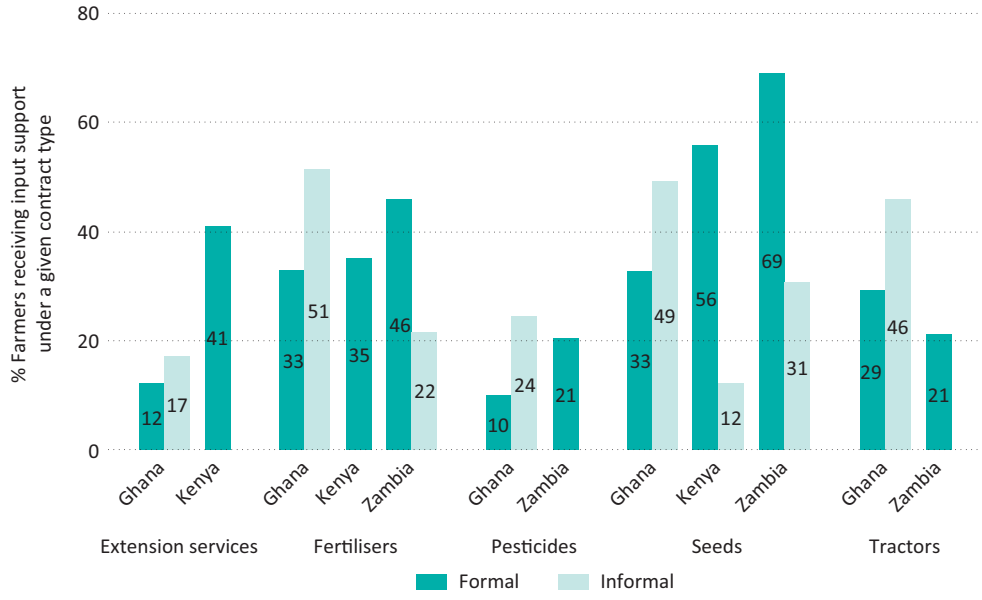
Interestingly, the support received by farmers on informal contacts often exceeds the support received by those on formal contracts in terms of extension services, seeds, fertilisers and tractors (Figure 8.6).

The majority of the farmers under contract have perceived a *positive to very positive impact from the scheme on their production and income*. For example, many farmers report an increase of at least half or more in their income and their output as a result of contractual arrangements. Surprisingly, in Ghana, farmers on informal contracts benefit from higher income and output increases than their peers on formal contracts, while in Zambia more than 25 per cent of formal contract workers do not report increases in income or output (Figures 8.7 and 8.8).

Farmers on contract have reported many benefits from having a contract. Some of these include better and more information on how to produce, reduction in transport costs, access to newer crops, increase in profits and being better able to connect with potential buyers (Table 8.3 provides specific examples from Kenya).

Farmers also benefit from a variety of services from contract providers. While 'information on markets' is the top service received by contract

Figure 8.6 Support received by famers by type of contract (%)



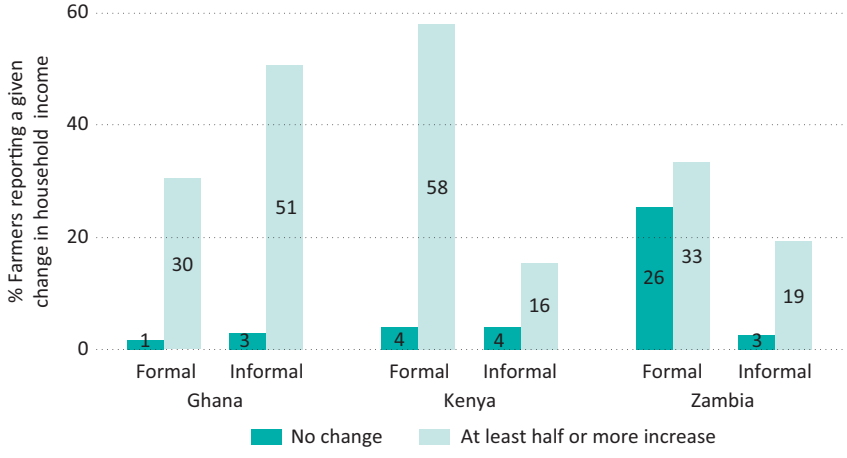
Source: Authors' calculations based on survey responses

farmers in Ghana and Kenya, distribution of inputs' dominates the services inputs supplied to Zambian farmers (Figure 8.9).

Finally, as a result of participating in a contract, many farmers engage in new tasks. Kenya emerges as a clear leader, with more than 40 per cent of contract farmers pursuing new activities based on the experience and the lessons learned from their contractual arrangements (Figure 8.10).

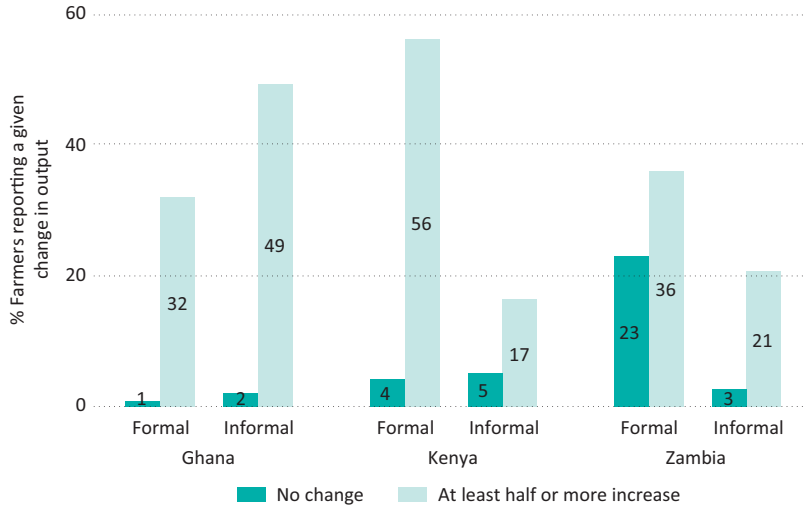
Although indicators are not fully comparable, contract farmers seem to be more satisfied with their buyer arrangement than farmers without contracts (see Table 8.4). Higher benefits were reported by maize farmers than cassava or sorghum farmers, mainly because maize buyers

Figure 8.7 Changes in income by contract type (%)



Source: Authors' calculations based on survey responses

Figure 8.8 Changes in output by contract type (%)



Source: Authors' calculations based on survey responses

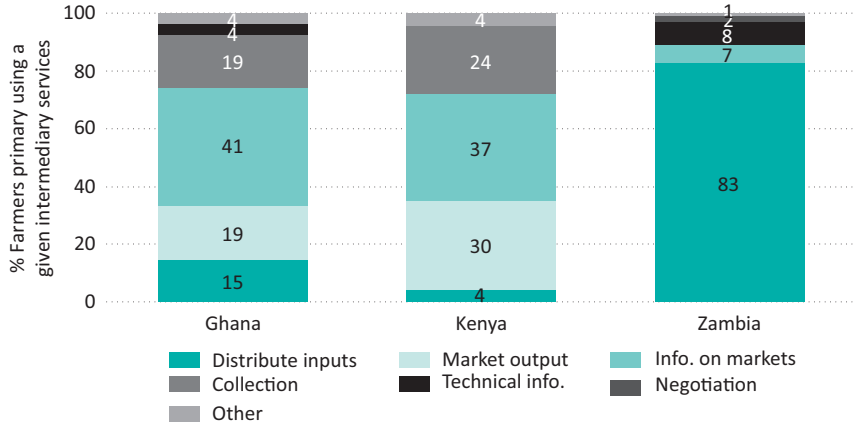
Table 8.3 Channels of economic transformation in Kenya

Channel for economic transformation	% of farmers in Kenya
Access to cheaper inputs	70
Information on how to produce	80
Transport/transaction cost reduction	81
Access to new and better technology	76
Access to new crops	65
Increased crop yield	75
Access to markets and less risk	86
Fixing crop price	71
Increase in profits from crop sales	76
Connecting with buyers	72

provided inputs at early stages of production. The reduction in the cost of inputs is attributed to lower marketing, transport 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.

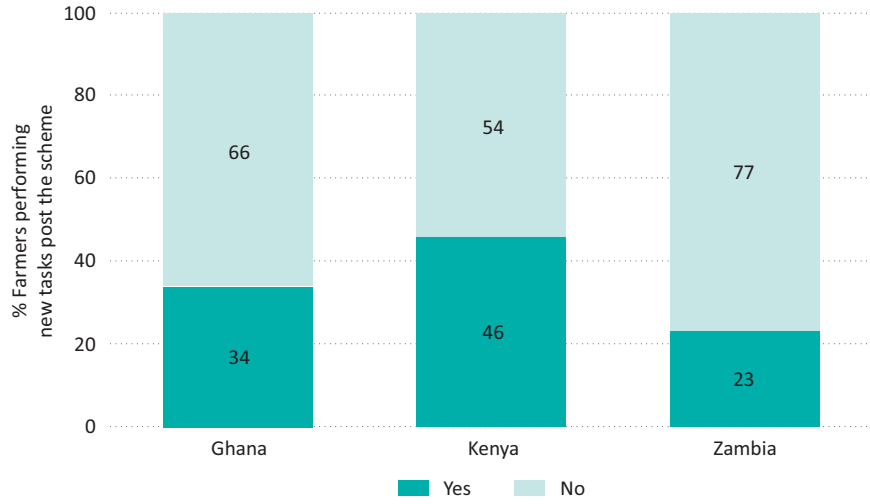
Most non-contract farmers expressed strong interest in participating in contractual arrangements, but they are hindered by lacking information on potential buyers who offer contracts. Farmers are motivated not only by the larger variety of less expensive and better-quality inputs that they are likely to receive

Figure 8.9 Use of intermediary services by contract farmers (%)



Source: Authors' calculations based on survey responses

Figure 8.10 Farmers pursuing new activities as a result of contractual relations (%)



Source: Authors' calculations based on survey responses

Table 8.4 Happy or not? Satisfaction with current buyer arrangement

Percentage of farmers	Ghana		Kenya		Zambia	
	Non-contract	Contract	Non-contract	Contract	Non-contract	Contract
Happy (to very happy) with current scheme	55	88	42	81	58	78

as part of a contract, but mostly by access to updated technology, training and other extension services.

8.6 Does participation in international value chains really matter to farmers?

Our pilot surveys reveal that the main contractors have been processors and traders, specifically the milling companies or food reserve agencies, seed companies and breweries. Interestingly, of the farmers under contract who were interviewed, the majority have no knowledge about the use of their crops, while 30 per cent claim that their products are used within the country. 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 or not (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 or not *their* product is being exported, and even if they know that it is being exported then they may not know how much of it. This is because a buyer usually purchases from multiple farmers and may export either all of the product or part of it.

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 the Democratic Republic of Congo,

Malawi, Zimbabwe and Kenya through the various players in the chain. In addition to exports of raw grains, maize is also sold in processed form such 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 the neighbouring country of the Democratic Republic of Congo and used in the copper mining sector as HQCF (85 per cent starch), thus fitting into regional value chains (RVCs). Encouraged by the Government of Zambia, there are also efforts by ZB 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 the manufacturing industry (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 within the country, but transports it from areas of surplus to deficit areas. This function is facilitated by some of the large wholesalers, aggregators and processors, especially millers.

A clear message emerging from pilot interviews with lead firms is the important role played by key processors and buyers in organising and developing farmers' capacity to participate effectively and profitably in value chains. Approximately one-third of the farmers on contracts mentioned that they receive extension services and training. However, contract farmers are unable to indicate clearly how they participate in the value chain. There is a need to better link the findings emerging from farmer and supplier surveys in order to inform the development of adequate value chain models for small scale farmers, who form the bulk of agricultural producers in sub-Saharan Africa.

8.7 Conclusion and next steps

What are the appropriate policies that will allow countries in Africa to support employment growth in more productive and higher value-added activities within the agriculture sector? The results of the surveys reported in this paper reveal how market conditions differ across selected crops (maize, cassava and sorghum) and across the countries analysed in this paper. Maize is clearly a well-established but complex value chain in Kenya and Zambia. Value chains in maize seem to be well developed, have significant government investments and benefit from interest from key stakeholders. By contrast, in Ghana the maize sector is less developed.

In Ghana, cassava is the main value chain, receiving most of the investment. Cassava has significant untapped potential (mainly as starch) in Zambia and Kenya in the brewing and manufacturing industries. However, there are logistical and varietal challenges to overcome before benefits can be realised. It is important to investigate this value chain further, to understand the current and potential regional and international linkages and what can be done to develop them in the near future.

Sorghum has a potential in the beer industry, but numerous regulatory challenges remain in all countries. For example, aspects of taxation policy are important, as they affect the final product and are passed on to the farmer by the processor. In Kenya, the government-levied excise tax on sorghum for clear beer has had a negative impact on sorghum production at the farm level. It took several years after the tax was removed for farmers to increase production of sorghum.

The results presented in this paper show that farmers who were on contracts had higher

output and better access to seeds, fertilisers, pesticides, technology and extension services than farmers who were not on contracts. Interestingly, the support received by farmers on informal contacts often exceeds the support received by those on formal contracts in terms of extension services, seeds, fertilisers and tractors. Also, many farmers report an increase of at least half or more in their income and their output as a result of contractual arrangements. Surprisingly, in Ghana, farmers on informal contracts benefit from higher income and output increases than their peers on formal contracts, while in Zambia more than 25 per cent of formal contract workers do not report increases in income or output. Farmers also benefit from a variety of services from contract providers. While information on markets is the top service received by contract farmers in Ghana and Kenya, distribution of inputs dominates the service inputs supplied to Zambian farmers. Finally, as a result of participating in a contract, many farmers in all the countries examined engage in new tasks.

It is important to note here that having a contract does not necessarily mean that the farmer is part of a value chain. However, it would be safe to say that having a contract brings the farmer 'close' to the value chain. Therefore, having a contract is an important but not sufficient criterion for a farmer to be part of a value chain. The upcoming main survey will be able to tell us which farmers on contracts were also part of a value chain and which ones were not.

In all the value chains examined, it is important to understand the impact of government policies on the emergence of value chains. For example, in Zambia, the NCPB and FRA play dual roles on behalf of the government to manage price stabilisation and strategic food reserves. They have a tendency to distort market prices or distort competition through quotas or taxes, deterring investors from entering the markets and developing value chains. In deciding on future policies in the agriculture sectors, it is important for countries to recognise that achieving domestic food security and better integrated GVCs and export growth are not mutually exclusive or even opposing objectives and could actually be complementary in an improved policy environment.

Finally, the results presented in this paper show how most value chains in agriculture in Africa are domestic or regional, rather than global. This suggests that addressing integration at the regional level is critical. Further analysis will attempt to link the farmers better to RVCs, to understand how the opportunities from RVCs can be used to influence the dialogue on regional trade policies.

Notes

1 Senior Economist in the Macroeconomics and Fiscal Management (MFM) Global Practice of the World Bank Group.

2 Economist in the Trade & Competitiveness (T&C) Global Practice of the World Bank Group.

3 The authors thank Paul Brenton and Carmine Soprano for valuable comments. Arti Grover provided excellent assistance in the preparation of the graphs. Excellent inputs were provided by Jamie Macleod. All remaining errors are our responsibility. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not represent the view of the World Bank Group, its Executive Directors or the countries they represent.

4 Lead firms can be defined as small, medium-sized or large firms that have forward or backward commercial linkages with a significant number of micro-, small and medium-sized enterprises (MSMEs). Examples of lead firms include buyers, traders, input suppliers, exporters and processors. Lead firms often provide support to MSMEs that they buy from or sell to, as part of their commercial relationships with them. This could come in the form of training, technical assistance or inputs.

5 This Box summarises the preliminary findings of a World Bank project, 'Can International Value Chains Drive Transformational Productivity Growth in Africa?', which focuses on understanding the nature and degree to which access to competitive tasks and complementarities between goods and services markets allow firms and farmers to participate in regional and global value chains and operate efficiently. These preliminary findings are based on pilot surveys in three countries (Kenya, Ghana and

Zambia). The project focuses on maize, cassava and sorghum in Kenya, Ethiopia, Ghana, Sudan and Zambia.

6 In 2014, some of Zambia's top exports were copper products: copper cathodes (US$5.1 billion), refined copper ($1.8 billion) and copper alloys ($139 million).

7 By diversifying uses of a given product (also known as 'densification' in the GVC literature), firms reduce vulnerability to product-specific shocks transmitted through backward linkages. GVC densification also fosters spillovers from GVC participation and engages more local firms in the supply network.

8 A multifaceted sampling approach was implemented at three distinct levels to determine (i) the target enumeration areas, (ii) the target households per enumeration area (including subsistence farmers) and (iii) the target respondents per household. A combination of purposive and random sampling was employed to identify the farmers for the pilot interviews.

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Chapter 9

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

Nana A Asante-Poku[1]

Abstract

This paper 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 content, 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 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 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 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 in 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 2001a). In this same period, pineapples contributed as much as 42 per cent of the total non-traditional agricultural export earnings, which includes 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 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, been accepted by the buyer and been 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 and a possible drop in consumer demand at certain times of the year, e.g. in summer, and 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 or reducing the volumes they collected, or 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, by 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 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 economy 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. 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. Contracts link the farmer with credit from the buyer or a financial institution. 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 3 months before they were paid for their produce). Nowadays, producers are paid by cheque directly into their bank accounts, 2 weeks after delivery. According to 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 could not 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. A representative of a financial institution commented: 'The long gestation period of pineapple, 1 year and over, makes it difficult to finance. Assuming you give a moratorium of even 4 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

1 PhD candidate, School of Oriental and African Studies, University of London.
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.

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Chapter 10

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

Jodie Keane[1]

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 paper reflects on the participation by the incumbent Kenya and the more recent entrant Ethiopia in the high-value agriculture value chain, and the sub-sector 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 article 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 article, 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 then summarise the identifiable upgrading processes. These experiences are then contrasted with those identified in Ethiopia. Finally, this article 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 Trade and Tariffs (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 rent and the applicable rules of origin.

The 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. 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 *et al.* 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 considerable 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 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 2013). 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 less 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 whilst 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 is an aspect which requires 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 has 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 cooperation 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 (forthcoming in Keane 2017).

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

The 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, whilst 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 paper are the authors and do not reflect those of the Secretariat.
2 This paper is adapted from Keane (2017) forthcoming.
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 *et al.* (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 *et al.* 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 this 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 paper 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 cannot alone 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 material to tuna processors (Campling *et al.* 2007).

There is a heterogeneity of players in the branding and manufacturing node, each with its own logics 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 socio-economic 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 2013):

- 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, 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 is 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 SGD14 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 it is 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 paper: 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 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 2-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 not 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, political-economy dynamics driving this, and the related sustainability and development implications. Within this paper, 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 paper 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, political-economy dynamics driving this, and the 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–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 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 over 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 skill 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.

Skill 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 investments 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 skill 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 skill 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 be also 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 paper 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 livelihood 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 continued a steady growth trajectory through to 2015.

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: See 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 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-$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 4 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 (BI Intelligence 2015).
- 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 10 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 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 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 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] (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 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;

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.

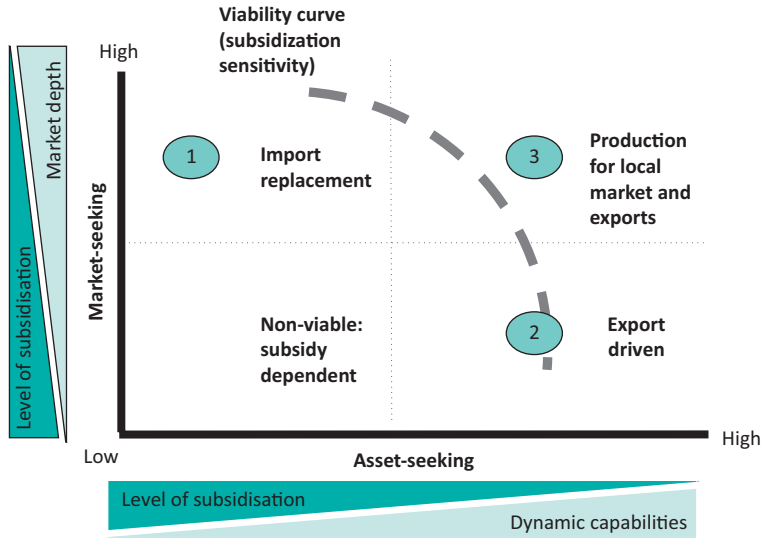
Based on this categorisation it is then possible to consider a two-by-two automotive industry viability matrix for an economy, as in Figure 13.1. The framework essentially identifies viable automotive spaces as based on import replacement, driven by exports or, ideally, a combination of the two. The 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).

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. 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 paper 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 paper 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 service 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 paper 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 of the studies have been on the impact of servicification on the manufacturing sector and to a lesser extent on agroprocessing industries. The role of servicification on the tourism sector has largely been ignored.

The aim of this paper 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 paper 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 paper 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

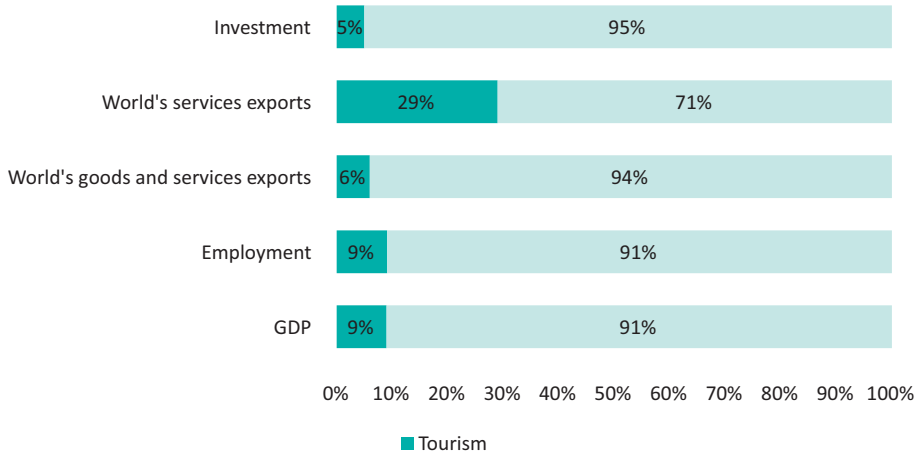
industry export. Tourism is the first and most important export category and foreign exchange earner for many developing countries (UNWTO 2014).

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 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.

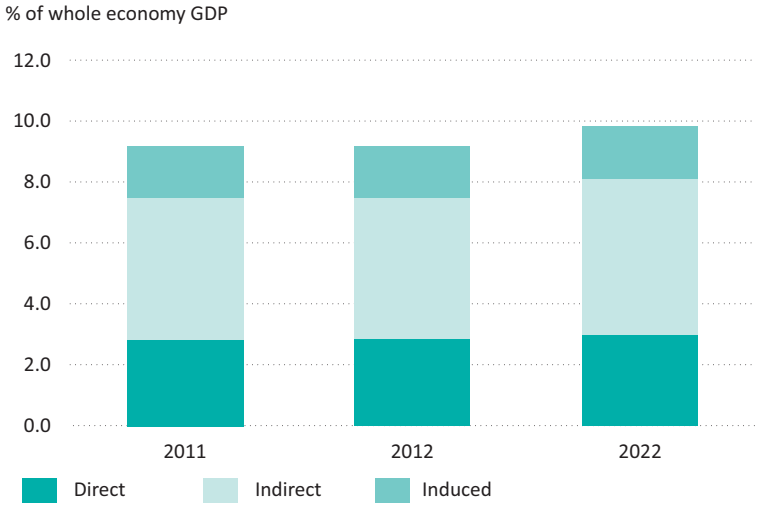
With the growing importance of travel and tourism in the global economy, it is estimated that, by 2022, travel and tourism's total contribution will account for around 10 per cent of world GDP and over 1 in 10 jobs. Figure 14.3 shows the employment derived from the tourism sector in percentage terms 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 over 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



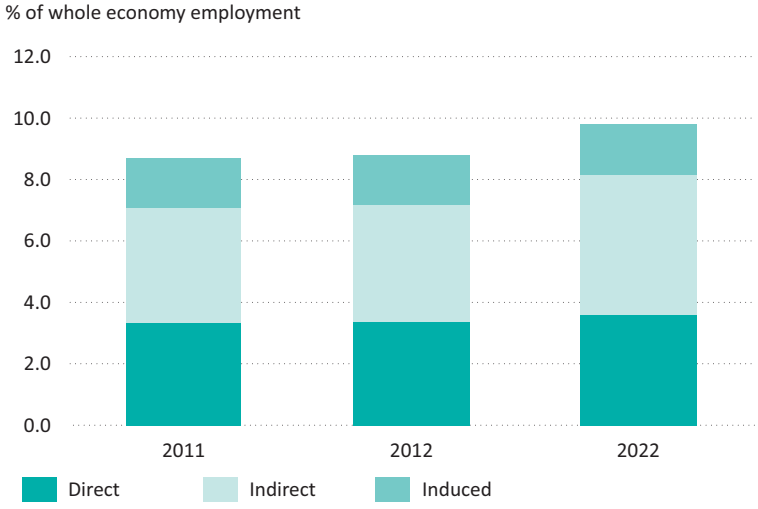
Source: World Travel & Tourism Council (2012)

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.). These would include such jobs

Figure 14.3 Total contribution of travel and tourism to employment



Source: World Travel & Tourism Council (2012)

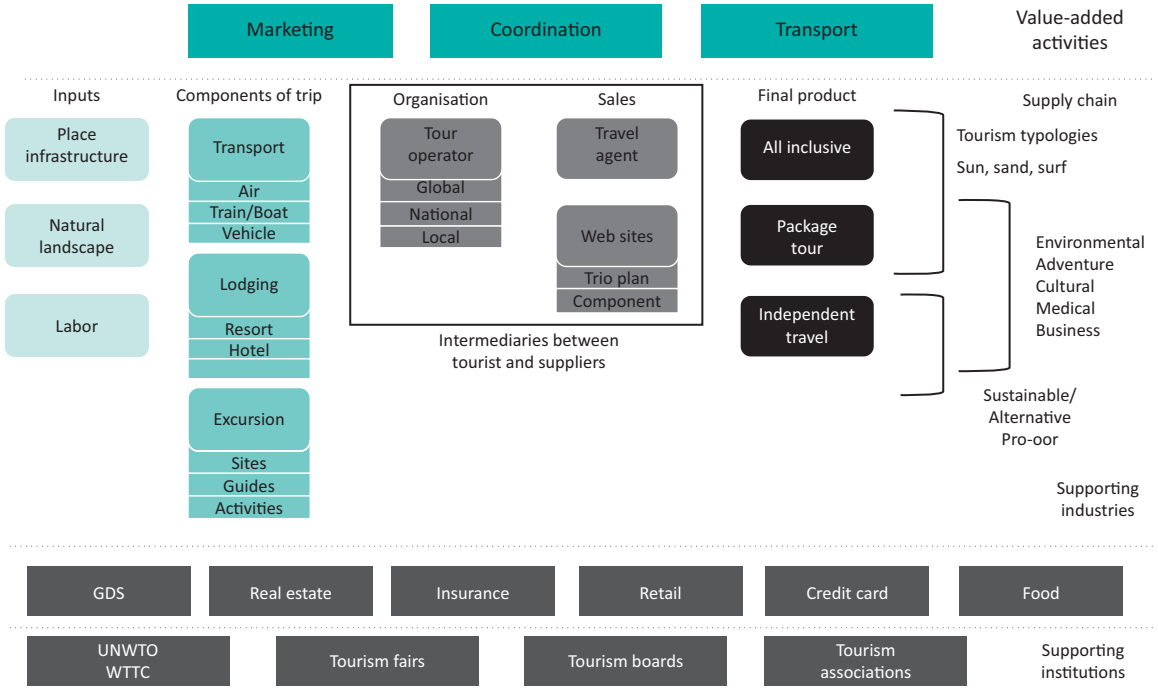
as hotel staff, tourist guides, taxi and bus drivers, entertainment workers, and many others. When such services are provided to tourists, they are considered to be exports of trade in tourism services by the supplying country, and imports of tourism services by the country from which the tourists originate. 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 2 months travelling around the Caribbean, making use of accommodation in different countries; visitors who arrive in a city for just 1 day but have lunch in a restaurant and use taxi services and possibly spa services; or persons who disembark in a Caribbean country for 1 or 2 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 hotel 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'.

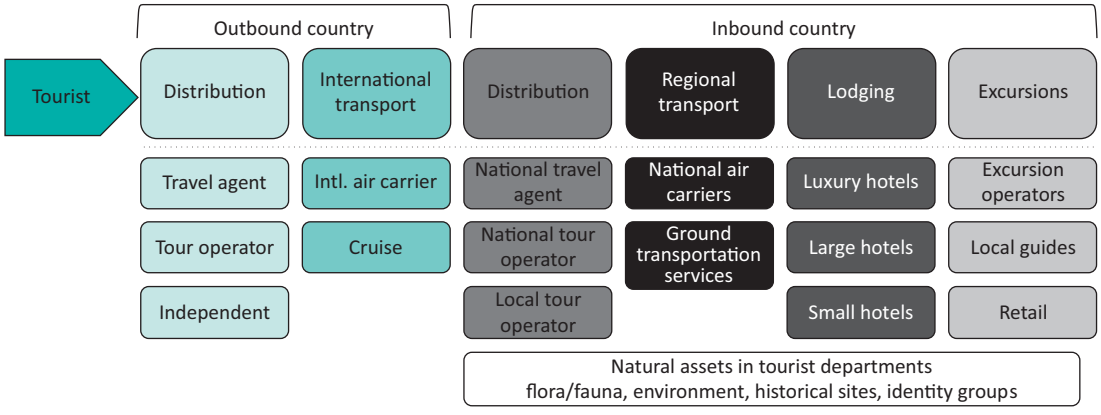
One of the goals of countries or firms that are part of the tourism value chain is to upgrade their activities along the chain. Four upgrading trajectories are key drivers of the global tourism industry:

- 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 1 day but less than 1 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 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. 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 over 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 drink 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 over 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 over 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 St Kitts and Nevis, 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 paper 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 the international guests as the importers but also the services provided internationally (regionally or extraregionally) as inputs of the value chain. In particular, the paper 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 paper goes beyond traditional industry approaches, which focus on mode 2, consumption abroad.

The paper 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 paper 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 the 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 the North American and European airlines and cruise ships. An example of the uneven playing field 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

1 Senior Fellow, Sir Arthur Lewis Institute of Social and Economic Studies; WTO Chair, University of the West Indies, Barbados.
2 Senior Fellow, International Centre for Trade and Sustainable Development (ICTSD), Geneva.
3 Policy Analyst, Economic Development Council (Office of the Prime Minister), Belize.
4 This paper 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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Uncorrected advanced copy for the upcoming publication: *Future Fragmentation Processes: Effectively Engaging with the Ascendency of Global Value Chains*

Please cite as:

Keane, J (Ed.) (forthcoming 2017), '*Future Fragmentation Processes: Effectively Engaging with the Ascendency of Global Value Chains*', Commonwealth Secretariat, London.

This set of policy briefings has been developed by Dr Jodie Keane, Economic Adviser (Trade Policy Analysis) at the Commonwealth Secretariat, with support from Roland Baimbill-Johnson, previously Commonwealth Scholar at the School of African and Oriental Studies (SOAS), University of London and currently a SOAS funded PhD candidate, at the Department of Economics. The editors are extremely grateful to all contributors and participants in the a technical workshop held at the Commonwealth Secretariat, 7 October 2016.

The global trade slowdown has been accompanied by profound shifts in the trade-growth nexus, with continued declines in advanced economies' participation in global production network exports. Against this backdrop, this publication presents a collection of think-pieces reflecting on past experiences of global value chain (GVC) engagement and potential future fragmentation processes.

Providing new evidence of participation in GVCs by the Commonwealth, it is intended to spur far more nuanced and country-, as well as region-, specific approaches towards effective and gainful GVC engagement. Policy measures which arise include: overcoming barriers to entry, addressing informational asymmetries, tackling unfair competition and stimulating innovation. These are all areas where the potential of the 'Commonwealth Effect' could be further leveraged to enhance trade gains, the necessity of which is heightened in view of the advancement of structural economic transformation to support the Sustainable Development Goals (SDGs).

Future Fragmentation Processes: Effectively Engaging with the Ascendency of Global Value Chains addresses these issues in four parts:

Section 1: Global Developments

Section 2: Thematic Issues

Section 3: Sectoral Developments

Section 4: Policy Perspectives

The Commonwealth