

GLOBAL VALUE CHAINS IN SERVICES:

A CASE STUDY ON COSTA RICA



ITC

TRADE IMPACT
FOR GOOD

50
YEARS

1964-2014

GLOBAL VALUE CHAINS IN SERVICES:

A CASE STUDY ON COSTA RICA

Abstract for trade information services

ID=43121

2014

C-34 188 GLO

International Trade Centre (ITC)

Global Value Chains In Services: A Case Study On Costa Rica

Geneva: ITC, 2014. vi, 17 pages.

Doc. No. DMD-14-257.E

Through a case study on Costa Rica, this paper demonstrates how Global Value Chains in services can play a major role in economic growth for small developing countries, enabling them to become significant actors in twenty-first century trade and investment patterns; explains the concept of Global Value Chains in goods and services, how they have transformed international trade and production processes, the difficulties involved in calculating gains from trade. Some major challenges are highlighted the resolution of which would enhance Costa Rica's competitiveness in services GVCs. Includes bibliographic references (pp. 14-16).

Descriptors: Costa Rica, Value Chain, Trade in Services, Outsourcing, Business Services, Case Studies.

For further information on this technical paper, contact Jane Drake-Brockman, Senior Officer, Trade in Services, drake-brockman@intracen.org

Citation: Marín-Odio, A. (2014). Global Value Chains: A Case Study on Costa Rica. International Trade Centre Technical Paper, Geneva.

English

The International Trade Centre (ITC) is the joint agency of the World Trade Organization and the United Nations.

ITC, Palais des Nations, 1211 Geneva 10, Switzerland (www.intracen.org)

Views expressed in this paper are those of consultants and do not necessarily coincide with those of ITC, UN or WTO. The designations employed and the presentation of material in this paper do not imply the expression of any opinion whatsoever on the part of the International Trade Centre concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Mention of firms, products and product brands does not imply the endorsement of ITC.

This technical paper has not been formally edited by the International Trade Centre.

Digital images on the cover: Carlos Reusser Monsalvez, Conleth Brady/IAEA, Richard Blank

ITC encourages the reprinting and translation of its publications to achieve wider dissemination. Short extracts of this technical paper may be freely reproduced, with due acknowledgement of the source. Permission should be requested for more extensive reproduction or translation. A copy of the reprinted or translated material should be sent to ITC.

Acknowledgements

This case study was written by Andrea Marín-Odio. This work was researched and completed as part of a Masters in International Economic Law and Policy (IELPO) at the University of Barcelona under the supervision of Pierre Sauvé, Deputy Managing Director and Director of Studies at the World Trade Institute (WTI) in Bern, Switzerland.

We would like to thank Jane Drake-Brockman, ITC Senior Services Advisor and Max Thompson, ITC International Consultant for reviewing the text for a broader audience of trade in services stakeholders.

We also thank Ruth Seymour and Orlane Robert, ITC Trade in Services Administrative Assistant, Natalie Domeisen for editorial management and promotion, Yolande Zaahl for quality control, and Serge Adeagbo and Franco Iacovino who provided graphic and printing support.

Contents

Acknowledgements	iii
Acronyms	vi
Introduction	1
Chapter 1 Global Value Chains	2
1. Definition	2
2. The evolution of GVCs	2
3. GVCs in services	3
Chapter 2 Gains from Trade through GVCs in services	4
1. How to define gains from trade in GVC in general	4
2. How to define gains from trade in GVCs in services	5
Chapter 3 Case Study - Costa Rica	8
1. Overview of the Costa Rican economy	8
2. Shifting from agricultural exports to high value added GVCs	9
3. Progressive shift into GVCs in services	10
4. Facing the future: challenges to moving towards more value added services	11
Conclusion	13
Bibliography	15
Figure 1: GDP per capita growth rates by quartile of growth in GVC participation in developing countries, 1990-2010	4
Figure 2: Services share of exports for selected economies (gross and value added terms) in 2009	6
Figure 3: “Smiley Face” curve of value added in GVCs	7
Figure 4: Costa Rica: GDP, 1985-2013	9

Acronyms

The following acronyms are used:

BRICS	Brazil, Russian Federation, India, China and South Africa
CINDE	Costa Rican Investment Promotion Agency
COMEX	Ministerio de Comercio Exterior de Costa Rica (Ministry of Foreign Trade of Costa Rica)
ECLAC	Economic Commission for Latin America and the Caribbean
FDI	Foreign Direct Investment
FTZ	Free Trade Zone
GDP	Gross Domestic Product
GNI	Gross National Income
GVC	Global Value Chain
IMF	International Monetary Fund
ICT	Information and Communication Technology
ITC	International Trade Centre
JETRO	Japan External Trade Organization
LDC	Least Developed Country
OECD	Organisation for Economic Co-operation and Development
PROCOMER	Promotora del Comercio Exterior de Costa Rica (Foreign Trade Promotion Agency)
R&D	Research and Development
SMEs	Small and Medium-sized Enterprises
TiVA	Trade in value added database of OECD-WTO
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organization

Introduction

This paper makes a contribution to the public policy discussion of Global Value Chains (GVCs) in services and explains how they can play a major role in bringing economic growth and even social benefits for emerging economies. The paper offers a case study on Costa Rica, an emerging economy that has transformed its industry in order to foster GVCs in both goods and services. This is an important case as it offers a potentially replicable model for other countries. The paper shows how this small developing country, through a sustained strategic decision towards participating in GVCs, transformed its economy from one primarily focused on agricultural goods to being the top high-tech exporter in Latin America and the fourth largest high-tech exporter in the world.¹

The paper first explores the concept of borderless production systems for goods or services, known as GVCs, as well as their evolution and current role in international trade and output. GVCs have transformed international trade and production processes over the past 30 years. GVCs have also created new options for emerging economies which can join these chains and trade within them, rather than having to invest decades in building their own industries. GVCs can bring significant growth to emerging economies that understand how to integrate successfully into them and, more importantly, how to climb the ladder to higher value added products. In order to do so, it is important to understand the dynamic nature of GVCs, how they operate and why there is a distinction between the services inputs into GVCs in goods and GVCs in services in their own right.

Moreover, as participation in GVCs has become more widespread, there has been a big debate on how to correctly calculate the gains from trade they create, due to the fact that one product usually crosses different borders several times for further processing until its final purchase by a consumer. This paper explains these difficulties, as well as the recent shift from conventional trade measurements to the use of the new formats such as the Organisation for Economic Co-operation and Development (OECD) and World Trade Organization (WTO) joint database to measure trade in GVCs, called Trade in value added (TiVA), which takes into account the difference between domestic and foreign inputs (or added value), focuses on industrial activity rather than on products and uses an international input-output table that could clearly measure the origin and value of intermediate goods.

The paper examines the case of Costa Rica, a Central American emerging economy that is considered by some to have found the recipe to achieve economic growth firstly through participation in GVCs in high value added goods and secondly through a shift into GVCs in high value added services. Nevertheless, challenges remain for Costa Rica if it is to achieve its goal and position itself as a trade and investment hub in services. The country must invest in fostering better conditions for idea-based businesses, invest in specialized education and improve its overall competitiveness if it wants to reproduce its previous success in GVCs in goods and use GVCs in services as a tool to enhance trade and development.

¹ According to The Costa Rican Investment Promotion Agency (CINDE).

Chapter 1 Global Value Chains

1. Definition

In recent years, fragmentation of production processes and the international dispersion of tasks and activities within them have led to the emergence of borderless production systems for products, both goods and services. These products might be created through sequential chains or complex networks globally, regionally or between just two countries. These systems are commonly referred to as Global Value Chains (GVCs).

A GVC includes the full range of activities that firms undertake to bring a product or service from its conception to its end-use by final consumers. These activities include design, production and manufacturing, marketing as well as pre-sale and post-sale support.

GVCs locate the production of goods and services where it is most advantageous to do so. Therefore, every country or firm that 'adds-value' through intermediate inputs to a final good or service is considered to be part of the GVC. With the offshoring of some of these production activities, coupled with trade in intermediate inputs, production is increasingly spread over different countries, such that the value chains become global.

Nowadays, close to 65% of global trade (which amounts to more than US\$ 20 trillion) consists of trade in intermediate goods and services that are incorporated at various stages into the production process of goods and services for final consumption.² This makes the global economy one of intertwined GVCs.

2. The evolution of GVCs

GVCs have transformed international trade and the world economy in general. They have created new options for least developed countries (LDCs) and developing countries, which can now join supply chains and trade rather than having to spend decades building their own industries. The off-shoring of labour-intensive manufacturing stages and the heightened role of technology have spurred significant growth in emerging economies. Fragmentation of production in different countries has seen technology and know-how spread to all parts of GVCs, resulting in lower costs for producers, lower prices for consumers, better quality and a greater variety of products and services.

The growth of GVCs has prompted many emerging economies to abandon old policies of protectionism and a primary focus on agricultural production. Instead, they seek to attract offshore manufacturing jobs and foreign direct investment (FDI) and embraced pro-business and pro-investor policies, liberalizing their economies either unilaterally or through the conclusion of trade agreements, particularly preferential ones and procuring the new skills and education their labour force requires.

While 20th century trade meant final goods crossing borders, 21st century trade has become radically more complex with the inputs and assembly process of one product (that was traditionally made in one factory) fragmented around the globe.

Although the concept 'made in the world' was first coined in 2011 by the WTO and IDE/Japan External Trade Organization (JETRO) to reflect the new reality of a GVC-infused global economy, such value chains have long existed. Nevertheless, as the world became more interdependent and globalized through intertwined flows of goods, services and FDI, there has been an unprecedented increase in the importance of GVCs over the last thirty years. The development of GVCs has also been associated with the integration of emerging economies in global trade. Although OECD countries still dominate global manufacturing, in a growing number of non-OECD economies manufacturing production has increased significantly.

Drivers of the development of GVCs in each country are generally accepted to be: lower transportation costs; improvements in - and the greater diffusion of - information and communication technologies; technological innovation; the availability of highly skilled workers; secure and reliable political, legal and

² UNCTAD (2013).

social environments; enhanced intellectual property protection and geographical or cultural proximity to sourcing and/or export markets.

An important aspect of GVCs is that every country or firm involved in them seeks to achieve what has been defined as 'economic upgrading' or 'climbing the value added ladder', meaning they seek to move to higher value activities in GVCs, in order to increase the benefits from participating in global production networks. These benefits include security, profits, value added and capabilities.

Upgrading can be achieved by improving processes (where inputs are transformed into outputs more efficiently by reorganizing the production system or introducing superior technology); products (moving into more sophisticated product lines); functions (acquiring new functions or abandoning existing ones to increase the overall skill content of the activities) and by general chain or inter-sectorial upgrading, where firms move into new, but often related, industries.

However, climbing the GVC development ladder implies not only increasing GVC participation but also moving into activities that can provide more value in production and increasing participation in more sophisticated GVCs. This involves progressing from resource-based activities (like processing and selling commodities) to higher-tech activities (such as computer microchips), to knowledge-based activities (services) such as design, innovation, research and development (R&D), marketing and branding. A country that moves its production into more knowledge-intensive higher services-intensity can be considered to be climbing up the development ladder and gaining from trade in GVCs

3. GVCs in services

Services feature in almost every activity in an economy and are therefore key determinants of competitiveness and country-wide productivity. They have been referred to as 'the glue that holds supply chains together and ensures that they function in a fluid manner'³ due to the numerous services that are involved in the production and sale of products, whether the final product is a good or a service. Services also play a crucial role in the transformation of international trade and investment patterns, both through enabling the development of GVCs and through the creation of GVCs in their own right.

Currently, services form an important part of GVCs globally. According to the World Bank's World Development Indicators (2012), the share of services value added in world Gross Domestic Product (GDP) was 70% in 2010, rising fairly steadily from 53% in 1970, 57% in 1990 and 68% in 2000.⁴

In practice, it is not easy to identify each individual service components that make up the full value of a product or to draw a clear distinction between GVCs in goods and GVCs in services. When it comes to the operation of GVCs, services act as a series of linked markets for both goods and services. This is why, as will be explained in the following section, it is sometimes difficult to understand the real role and value of services in GVCs, since some calculations regard services only as an accessory to the production of a good and not a production in itself. This is especially true for what are often called 'enabling services' or 'producer services', such as transport, communications, insurance, finance, distribution and business services. Until recently, these were rarely accounted for in their own right but rather considered as local activities involved in the production of a good.

However, beyond their roles as enablers of GVCs and in a similar way to goods, services are today increasingly disaggregated and traded as separate tasks. The archetypal examples are back-office and data processing services (such as call centres). This development leads to creating pure service GVCs that offer new competitive opportunities for specialization and for the participation of emerging suppliers in global commerce. As is often the case of goods production, the objective of many services firms is to engage in high value-adding tasks, namely design, R&D, innovation and marketing/brand development.

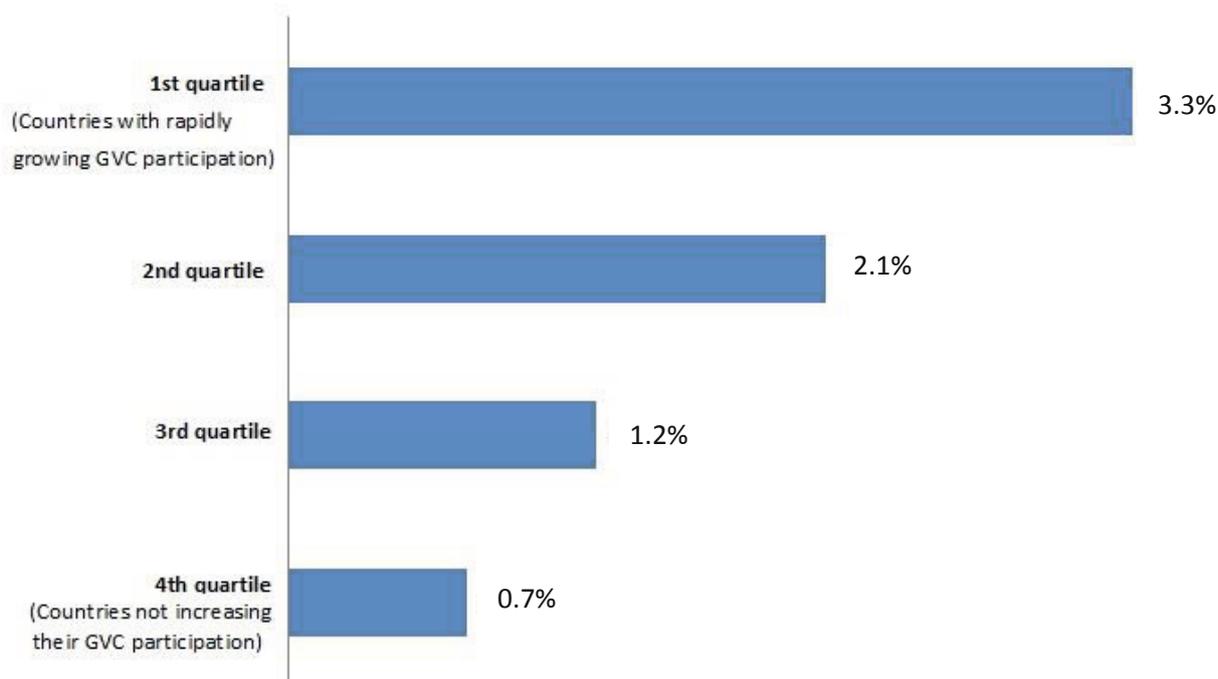
³ Low (2013).

⁴ Ibid. 61.

Chapter 2 Gains from Trade through GVCs in services

Evidence from the last 20 years shows that, as countries increase their participation in GVCs, their growth rates tend to increase as well. A recent statistical analysis by the United Nations Conference on Trade and Development (UNCTAD) correlating GVC participation and per capita GDP growth rates showed a significant positive relationship between the two phenomena for both developed and emerging economies. The 30 developing economies with the highest GVC participation growth rates in the 20 year period from 1990 to 2010 in the data set had a median rate of GDP per capita growth in the same period of 3.3%, compared with 0.7% for the bottom 30 countries:⁵

Figure 1: GDP per capita growth of developing countries, 1990-2010 – by GVC participation



Before analysing further whether participation in GVCs can be beneficial for a country's development trajectory, it is important to first understand how to measure trade in GVCs.

1. How to define gains from trade in GVC in general

There has been a recent debate on how best to calculate the gains obtained from each country's trade within GVCs. Conventional trade statistics measure trade flows on a gross basis, without taking into account that the value of products that cross borders several times for further processing are counted multiple times.

UNCTAD (2013) documented this problem of double counting through a very common example on GVCs: 'raw material extracted in one country may be exported first to an affiliate in a second country for processing, then exported again to a manufacturing plant in a third country, which may then export the manufactured product to a fourth [country] for final consumption. The value of the raw material counts only once as a GDP contribution in the original country but is counted several times in world exports'.⁶

⁵ UNCTAD (2013), op cit.: 151. Figure IV.20: GDP per capita growth rates by quartile of growth in GVC participation, developing economies only, 1990-2010.

⁶ UNCTAD (2013a), op.cit.

In addition, it is difficult to measure some exports that may only contribute marginally to domestic value added if imported intermediate inputs are taken into account and not those imports necessary for domestic firm productivity.

According to recent UNCTAD statistics, at global level, the average foreign value added in exports is approximately 28%. This means that about US\$ 5 trillion of the US\$ 19 trillion in world exports of goods and services in 2010 was contributed by foreign countries for further exports and was thus 'double counted' in global trade figures.⁷

In May 2013, the OECD and the WTO launched a joint database to measure trade in GVCs called Trade in value added (TiVA), which takes into account the difference between domestic and foreign inputs (or added value); focuses on industrial activity rather than on products and uses an international input-output table that could clearly measure the origin and value of intermediate goods. This OECD-WTO database currently reports data from 57 economies: the OECD countries, the BRICS, Argentina, Brunei Darussalam, Bulgaria, Cambodia, Chinese Taipei, Cyprus, Hong Kong SAR, China, Indonesia, Latvia, Lithuania, Malaysia, Malta, the Philippines, Romania, Saudi Arabia, Singapore, Thailand and Viet Nam. Although it is not a universal database, it allows us to better understand how trade is currently conducted around the world.

For example, gross trade statistics show that China's share of global exports was 9.4% in 2009, higher than Germany (8.4%), lower than the United States of America (10.6%) and significantly up on its share in 1995 (2.5%). However when measured in terms of value added, China's share in global exports, whilst still strong, stood at 8.3%, marginally higher than Germany (8.0%) but 3.5% behind the United States (11.8%). In value added terms, the United Kingdom was the world's fifth largest exporter in 2009 with an aggregate share of 4.5%, displacing France (4.2%), whilst the Republic of Korea fell from eighth in gross terms to 11th in value added terms.⁸

Understanding a country's share of global trade makes it possible to identify other associated factors, such as higher GDP growth or improvements in national productivity levels. This assertion holds true especially for countries performing higher value tasks. According to the International Monetary Fund (IMF) data, GDP seems to exhibit faster growth as the country moves up the value chain.⁹ Increased trade can also lead to increased productivity gains because it comes with FDI that embodies technical improvements and creates knowledge spillovers, both from exporting (e.g. learning-by-exporting) and from importing (e.g. import competition driving out less productive firms/activities).

This new tool is of major importance for policy makers since, by obtaining real numbers on each country's gains from trade under GVCs, it could now be possible to adjust local policies in order to redirect production where it effectively achieves more gains. Participation in higher value added chains could lead to economic upgrading, enhance growth and development.

2. How to define gains from trade in GVCs in services

Measuring gains from GVCs for trade in services is especially difficult. Not only does it pose the same difficulties explained above for every GVC, it also entails the additional dilemma of determining which services must be accounted for 'by themselves' and distinguish these from services that relate to the production of a good.

Typically services are found within the GVC when they are bundled with goods. However, until recently, there was no agreed methodology to measure the real impact of services in a country's economy when the service was considered merely as an accessory to the production of a good.

Some authors such as Drake-Brockman and Stephenson (2012) use the notion of 'embodied' and 'embedded' services to try to identify the value of services in GVCs of goods. Under such an approach, 'embodied' services are those contained in products generated by the mining, agricultural and manufacturing sectors and input during the production process, for example energy, transport,

⁷ Ibid.

⁸ OECD (2013).

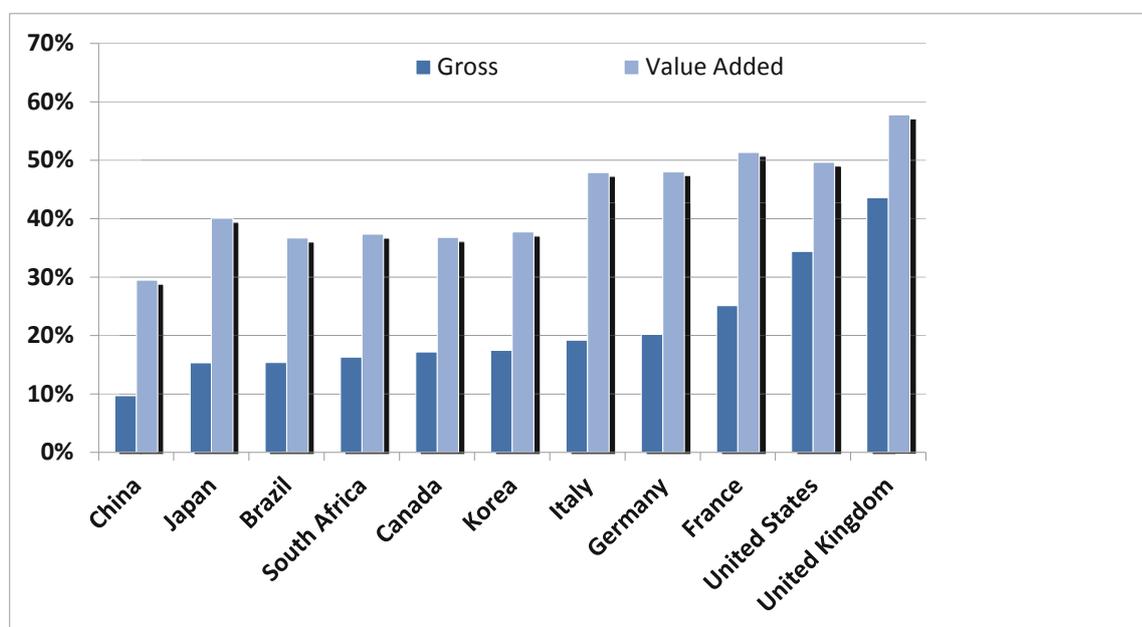
⁹ IMF (2013).

communications, insurance, accountancy, design, software and other technical expertise; whereas ‘embedded’ services are those that are readily identifiable at the point of merchandise sale, for example financing, training, maintenance, repair and other after-sales service.¹⁰

While the above differentiation allows for a finer understanding of the value of services in GVCs, it does not help us measure the real value of services in trade, since the full export value of embodied services was measured by countries and organizations as manufactured exports, with no export value attributed to the services input.

Currently, services comprise some 70% of GDP in most advanced economies. However, when measured in gross terms, trade in services accounts on average for just over 20% of total global trade in goods and services. By using the new data produced with the TiVA methodology, it can be shown that the service sector contributes over 50% of total exports in the United States, the United Kingdom, France, Germany and Italy and nearly one-third in China, with a significant contribution (typically one-third in 2009) across all manufactured goods.¹¹ The difference between previous measurements and the new TiVA findings offer a starkly different picture of the true impact services have in a country’s economy (see Figure 2 below).

Figure 2: Services share of exports for selected economies in 2009



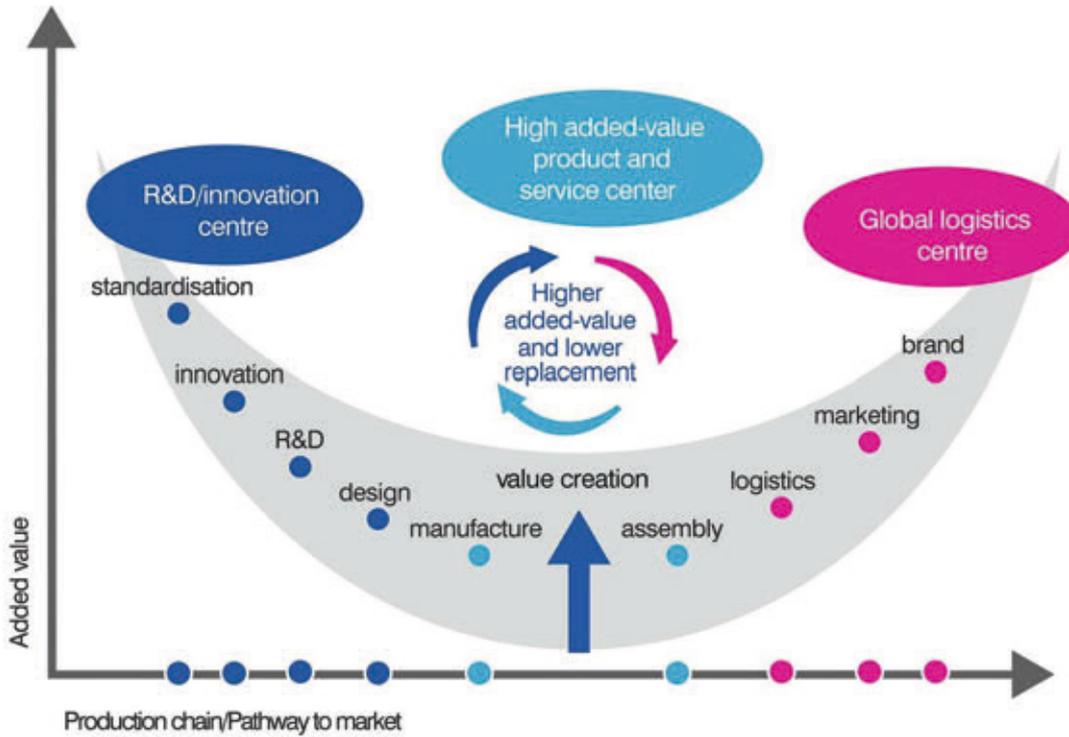
Source: OECD-WTO Database on Trade in Value added (2013).

As with goods, the shift to producing higher value added services generates greater gains for a country’s economy. In one typical pattern called the “smiley face” curve (see Figure 3), the most value (and knowledge) intensive activities are usually found at the beginning and the end of the chain where intellectual property is created, this is where services dominate the manufacturing process and where they have more value. Value added becomes high in upstream processes such as R&D, technology and design, is reduced in midstream manufacturing processes centering on assembly and then rises again in downstream processes such as branding, sales and after-sales services.

¹⁰ Drake-Brockman and Stephenson (2012).

¹¹ OECD (2013), op cit.

Figure 3: “Smiley Face” curve of value added in GVCs



Source: The Smiling Curve of Stan Shih by the McGill University and the Conference Board of Canada.¹²

This economics of the “smiley face” curve suggests that the fabrication stages in manufacturing may not be the development panacea they were once thought to be. It is important to note that the pre- and post-fabrication stages consist primarily of services rather than goods. This is why this paper contends that by shifting its participation in GVCs from manufacturing goods to services a country will probably climb the development ladder, gaining from trade and ultimately achieve more development gains for its country.

An interesting example of a small emerging economy that is basing its economic model on the aforementioned premise is Costa Rica, which is achieving higher growth and development for its citizens through the successful transformation of its economy from one focused mainly on agriculture exports to one that participates in GVCs in higher value added goods and services.

¹² McGill University and the Conference Board of Canada (2012).

Chapter 3 Case Study - Costa Rica

1. Overview of the Costa Rican economy

Costa Rica is a small Central American nation considered by both the IMF and the World Bank as an 'upper-middle-income country'.¹³ While it has categorized itself as a developing country at the WTO, it has recently taken steps towards its eventual admission in the OECD.

Costa Rica has a population of about 4.8 million, a GDP of around US\$ 45.10 billion in 2012 and a Gross National Income (GNI) per capita of US\$ 13,070 in the same year.¹⁴ During the past three decades and through its participation in GVCs in goods and services, Costa Rica has emerged as one of the more stable and faster growing economies in Latin America. The country's per capita income has grown at an average of 1.2% since 1980, compared to 0.8% for Latin America as a whole and only about 10% of the country's population lives on less than US\$ 2 a day, compared to a poverty rate of about 25% across the region. Moreover, its economy is about 20% less volatile than the rest of the region. Costa Rica is considered to be an economic and political leader in Latin America.¹⁵

Until the early 1960s, Costa Rica's economy was heavily dependent on the agricultural sector (mainly coffee, sugar and bananas), which was crucial in terms of output, employment, exports and fiscal revenues.¹⁶ The concentration on a limited set of primary agricultural commodities made the economy vulnerable to external price and demand shocks and, due to the small size of its territory, imposed a binding constraint on the country's growth prospects. The government therefore started a state-led industrialization programme aimed at reducing its dependence on primary products, which provoked an average growth spurt in GDP of 6% 1960-1980, making the country one of the fastest growing economies in the region.¹⁷

In the late 1980s, Costa Rica launched a trade and investment liberalization process through its accession to the WTO and the ratification of more than ten preferential trade agreements, accounting for over 80% of the country's trade.¹⁸ This process allowed the country to progressively shift its export mix from reliance on primary products towards ever higher shares of high-tech manufacturing and services, through the establishment of Free Trade Zones (FTZ) and the attraction of significant FDI, notably by Intel, the United States micro-chip manufacturer.

FTZs facilitated both FDI and trade for Costa Rica. In 2010, there were 256 firms operating under the country's FTZ regime, accounting for 54% of FDI in the country. Also, between 2006 and 2010, FTZ-established firms accounted for 54% of the country's exports. The regime features corporate tax holidays for twelve years, with a reinvestment option to extend the holiday for eight more.¹⁹

By 2012, the country exported around 4.300 different types of goods to 150 different countries with a total value of US\$ 11.34 billion and US\$ 5.48 billion in services.²⁰ Meanwhile, FDI net inflows reached US\$ 2.1 billion in 2011, up from US\$ 400 million in 2000.²¹ This increase in trade activity and the consistent rise in FDI inflows contributed to an increase of Costa Rica's GDP from US\$ 4.7 billion in 1985 to US\$ 45 billion in 2012²² (see Figure 4).

¹³ IMF (2013).

¹⁴ The World Bank (2014).

¹⁵ World Bank (2006).

¹⁶ OECD, Development Centre (2012).

¹⁷ ECLAC (2004).

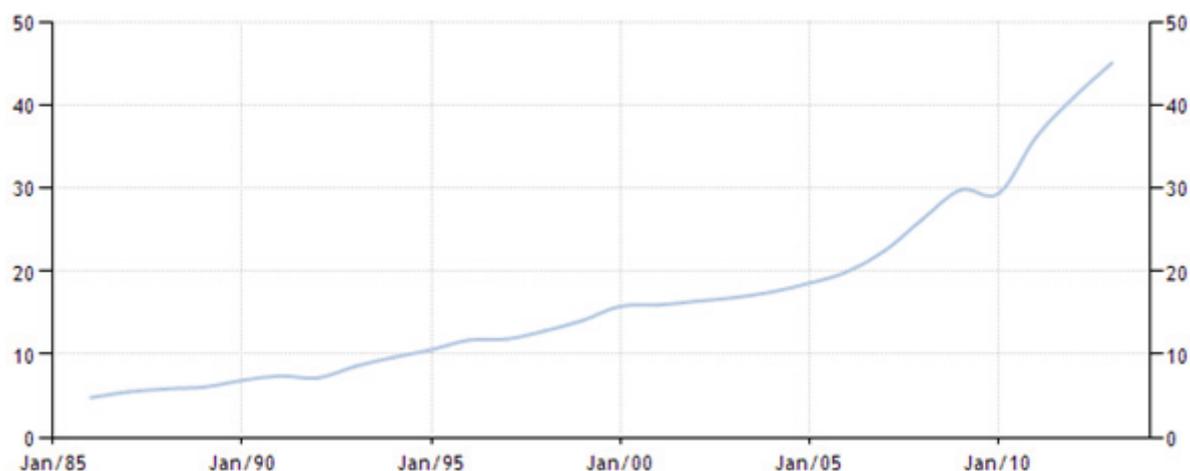
¹⁸ COMEX

¹⁹ Gereffi, Bamber, Frederick and Fernandez-Stark (2013).

²⁰ COMEX (2013).

²¹ The World Bank, Costa Rica: Data. Op. cit.

²² Trading Economics (2014).

Figure 4: Costa Rica: GDP, 1985-2013

Source: www.tradingeconomics.com from the World Bank.

The trends depicted above occurred in tandem with a major drop in poverty levels. The share of the Costa Rican population living in poverty fell from 48% in 1982²³ to 20.3% in 2012.²⁴ Income inequality, on the other hand, worsened significantly during these years, with the Gini index moving up from 45.3 in 1990 to 50.3 in 2009.²⁵

Together with Costa Rica's strategy to open its borders to trade and FDI, the country started participating in GVCs for high tech and knowledge sectors. These have contributed significantly to economic development and job creation. Ironically, some experts contend that the rise in inequality in the country can be directly attributed to the success in job creation and salary increases that came with GVCs and new FDI. When a large number of job positions were created under the new economy, the gap between the new, better-paid jobs and those that previously existed under the old economic regime increased dramatically. To consolidate its economic achievements, the government has sought opportunities to continue upgrading in GVCs and multiply job creation in order to close the inequality gap, identifying industries of key importance for the country and focusing on services.

2. Shifting from agricultural exports to high value added GVCs

Costa Rica's membership in GVCs is anchored in its commitment to foreign trade expansion and FDI attraction. According to the former Foreign Trade Minister of Costa Rica, Anabel González, there were five key determinants to her country's success in GVCs: (i) design of a long-term strategic vision on how to attract FDI; (ii) creation of a sound business environment; (iii) building a strong export platform, including WTO agreements and other bilateral and regional free trade agreements; (iv) producing an educated work force; and (v) focusing on logistical and supply management, including investments in infrastructure.²⁶

The arrival of Intel in the late 1990s, as a major information and communication technology company helped Costa Rica forge a reputation as an attractive place for investment in Latin America. After Intel, the country managed to attract several world-class companies specialized in high value added tasks. First-mover companies have been upgrading their business activities by adding to basic business services more knowledge-intensive activities, including software design and R&D.

This economic activity has been accompanied by the government's strategic vision to foster close cooperation and coordination between the three organizations responsible for trade and FDI attraction: the

²³ The World Bank (1997).

²⁴ Ibid.

²⁵ UNDP. Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution.

²⁶ González (2012).

Ministry of Foreign Trade (COMEX), the Foreign Trade Promotion Agency (PROCOMER) and the Costa Rican Investment Promotion Agency (CINDE). In May 2010 at the start of former President Laura Chinchilla's term, this coordinating role was institutionalized with the establishment of the Presidential Council for Competitiveness and Innovation, which is responsible for providing guidance on strategy of how to attract FDI and monitor its progress. Furthermore, in January 2011, a formal cooperation agreement between COMEX, CINDE and PROCOMER to attract FDI went into effect.²⁷

The country has the further advantage of a good geographical location. It has worked hard to enhance other conditions conducive to the development of GVCs irrespective of the specific value segment, such as a stable economic, political and social environment, an FDI-friendly climate and robust commercial law and contract regimes. The government has adopted a progressively more selective approach towards FDI attraction, focusing on companies operating in more knowledge-intensive sectors or innovation-rich activities. These two trends have fostered incipient industrial clusters in offshore business services, medical devices and high tech manufacturing.

High-tech or advanced manufacturing is one of the most visible examples of how the country's strategic decision to participate in GVCs impacted FDI in the country. Some subsectors, such as electric and electronic goods assembly, invested in Costa Rica as early as the 1960s and 1970s. However, this subsector only began to grow after 1987, when the country shifted towards a more open economy. Nearly 90% of all advanced manufacturing companies that have invested in the country have done so only since 1987, with nearly 63% arriving during the past 15 years.²⁸

Government estimates show that industrial sectors operating in a GVC context now represent 42.8% of total exports by value, around US\$ 3.5 billion.²⁹ As with most GVCs, a series of services related to the manufacturing activities are involved. However, for the past fifteen years, Costa Rica has seen the emergence of GVC in services in their own right; first through the attraction of entry-level activity in the industry (call centres) and then by slowly moving towards more value added offshore business services.

3. Progressive shift into GVCs in services

Costa Rica began to get investment in GVCs in services around 1995. The country's low labour-costs, its workforce with some basic English language skills, its strong telecommunications infrastructure and its adequate data protection laws, made it an attractive investment for entry-level activity in the industry (call centres). The first company to invest was Equifax, one of the US's largest credit reporting agencies, which established a contact centre in the country. It operated as a back office offering a data entry service in English to many of the biggest retail vendors in the US and Canada.

The success of contact centres was followed by a number of investments in shared services, software support, 'back office' services, medical tourism and publicity services. The major growth in GVCs in services in the country started in 2005 and peaked in 2008 when the global financial crisis hit. Some scholars saw in this external shock one of the main forces responsible for the delocalization of services coming mostly from the United States (80% on this period), Europe and Asia into Costa Rica, seeking lower operational and labour costs during the economic crisis.³⁰

In 2005, there were 33 multinational corporations in Costa Rica employing 10,802 people and exporting around US\$ 387 million worth of services. Today, these figures have mostly tripled; by 2011, there were close to 100 offshore services corporations operating in the Costa Rica, employing an estimated 33,170 workers and exporting US\$ 1,390 million³¹ worth of services. In 2012 alone, services represented 62% of the total employment generated, with 5,099 new direct jobs.³² According to PROCOMER, using data from the Costa Rican Central Bank, offshore services today accounts for 5.8% of GDP.³³ This delocalization towards Costa Rica could only succeed if the combination of adequate local conditions and policies to

²⁷ CINDE (2012).

²⁸ OECD, Development Centre (2012). op cit.: 45.

²⁹ Grau Tanner (2012).

³⁰ Flores Sáenz (2012).

³¹ Gereffi, Gary et al. op cit.:13.

³² CINDE (2013).

³³ Gereffi et al. op cit.:13.

foster international companies conducting trade in services in all modes was present in the country. According to the Services Trade Restrictions Database of the World Bank 2012, Costa Rica is considered 'virtually open but with minor restrictions,' with an overall grade of 29.3.³⁴ For comparison, its neighbouring country Panama is considered to have 'major restrictions' and was granted a grade of 47.8.

Costa Rica's international reputation as a centre for high-value added services continues to grow. A number of new investors have already announced their intention to move their service operations to the country in the coming years. It continues to receive international recognition. In 2013, Tholons Global Consultants business specialists ranked Costa Rica as the best country in Latin America for outsourcing services and the 13th best in the world.³⁵

The efforts to kick-start the service industry have proven to be justified and vital for the Costa Rican economy. Despite the country's successes in GVCs in high-value goods, Costa Rica has seen its overall share in world trade decrease over the past decade, mostly as a result of a decline in traditional exports. However, exports of services have grown on average 9.6% annually. Such growth reached 11.8% in 2011-2012 and by 2013 services contributed 33% of total Costa Rican exports, a good 10 points above the global average.³⁶ Thanks to its bet on services, Costa Rica has seen a steady increase in the net surplus on the services account that has increasingly offset the country's overall current account deficit.

Another important gain for Costa Rica has been in knowledge spillovers from companies that invest in services. There is empirical evidence showing that multinationals have generated knowledge transfers and spillovers to the Costa Rican economy, notably labour turnover spillovers. For example, studies have shown that 32% of ex-workers of FTZ multinationals (where most of the industry in GVCs in services is located) were hired by local companies. This amounts to 15,139 out of 46,864 workers between 2001 and 2007; just under half were absorbed by large local companies and the other half by SMEs.³⁷

Another study found that a significant number of workers have moved from foreign firms located in the country either to work in a domestic Information and Communication Technology (ICT) firm or to start an ICT business of their own. According to the study, 47% of the domestic ICT firms examined have at least one owner who previously worked for a foreign firm in Costa Rica. Also, more than half of domestic ICT firms have multinationals as clients in Costa Rica and 27.6% of local suppliers of multinationals have at least one owner who previously worked for a multinational company.³⁸

4. Facing the future: challenges to moving towards more value added services

Costa Rica started shifting to GVCs in services approximately fifteen years ago, with entry-level activity in the industry (call-centres) through the attraction of FDI. Today, it is slowly pursuing a shift towards more value added (and knowledge-intensive) tasks, such as business process outsourcing, which requires more specific and higher skills and a concerted policy effort to improve training and better business conditions for specialized companies. However, in effecting this qualitative upgrading, Costa Rica has to first solve a series of local problems that might undermine the country's competitiveness relative to its neighbours. These involve working on its population's technical education and language skills; improving physical infrastructure; strengthening intellectual property protection; and lowering the price of electricity.

Costa Rican universities have played an important role in developing the engineering and management talent that facilitated the growth of the high-tech sectors in the country. However, the proportion of Costa Rica's labour force with tertiary education remains low, less than 20%. This represents a major challenge to achieving the country's goal of developing more knowledge-intensive services. To tackle this situation, the government has launched a US\$ 200 million project with the support of the World Bank to improve education in high demand sectors at four leading public universities.

³⁴ Borchert, Batshur and Aaditya (2012).

³⁵ COMEX (2013).

³⁶ Rodríguez (2013).

³⁷ World Economic Forum (2011).

³⁸ Ibid.

Moreover, according to the World Economic Forum, Costa Rica still confronts a number of competitiveness challenges that it must tackle if it wants to continue being a focal point for FDI and GVCs. Although it ranks among the top 10 countries in Latin America on the World Economic Forum's global competitiveness index, it is still at number 54 out of 148 countries.³⁹ Costa Rica ranks especially low because of inefficient government bureaucracy; poor transport infrastructure; difficulty in accessing finance (either through equity or loans) and from a limited capacity to innovate, which will be crucial for the country's economy to move to higher value added activities.

Costa Rica also needs to improve its infrastructure to conduct trade (customs, logistics and physical infrastructure). According to the World Bank's 2012 Logistics Performance Index, which measures a country's 'trade logistics friendliness', Costa Rica ranked 82 out of 155 countries, earning an overall grade of 2.75 out of 5 points, far behind the region's number one country Chile, with a grade of 3.17.⁴⁰ Costa Rica's energy industry also needs to become more competitive. While the country prides itself on its renewable energy sources, which account for 78% of energy supply, its industrial electricity prices in 2010 were US\$ 129.5 per MWh, 30% higher than Mexico and double the cost in the United States.⁴¹

These shortcomings are reflected in low positions in the World Bank's Ease Of Doing Business Index, where the country ranked 102nd out of 189 countries,⁴² and in the Intellectual Property Rights Index, where it ranks 50th among 130 countries.⁴³ Many scholars have stressed the importance of a business-friendly environment and higher patent protection to attract and maintain FDI. This is confirmed by research that has established direct connections between technology transfers to developing economies by investors located in home country markets and the strengthening of patent rights in host countries. One study found that there was an associated 0.45% increase in the stock of investment coming from the United States for every 1% increase in the degree of patent protection in a developing country.⁴⁴ Additionally, if Costa Rica wants to climb the ladder towards higher-value services, such as R&D, it has to take into account research that shows that a strict enforcement of intellectual property rights is a prerequisite for multinationals to shift some of their R&D activities towards developing nations. One study found that as a country's intellectual property protection level increases, foreign-based firms focus more of their operations within that country on the development of intangible assets, with significant positive effects on the country's GDP growth.⁴⁵

The Costa Rican economy could benefit if these problems were swiftly addressed. One recent study by the World Economic Forum demonstrated that reducing supply chain barriers to trade could increase worldwide GDP by nearly 5% and trade by 15%.⁴⁶ If every country improved just two key supply chain barriers (like border administration, transport, communications infrastructure and related services) to even half the level of the world's best practices, global GDP could increase by US\$ 2.6 trillion (4.7%) and exports by US\$ 1.6 trillion (14.5%). These associated gains in GDP would take place in all regions, although they would be concentrated in the areas with the greatest improvements. Therefore, improvements in competitiveness and infrastructure could bring direct benefits to GDP growth and trade in countries highly embedded in GVCs like Costa Rica.

Costa Rica's success in GVCs relies heavily on FDI. Policymakers should take this into account when choosing long-term development strategies. As noted earlier, Costa Rica's industry is mostly based on efficiency-seeking foreign firms that moved into the country seeking to locate discrete parts of their production processes in lower-cost locations, as opposed to local innovation processes or local industries. This makes the economy vulnerable to shocks on the international market and dependent on third countries for continued trade growth and FDI inflows. As part of the country's industrial policy, the government should consider giving further attention to enable local companies to emerge, be competitive and take advantage of Costa Rica's participation in GVCs. Sustained action may improve the likelihood of multinationals seeking partnerships with local firms, as opposed to investing directly in the country and creating their own clusters.

³⁹ World Economic Forum (2013).

⁴⁰ The World Bank (2012).

⁴¹ Gereffi et al. op cit.: 15.

⁴² The World Bank (2013).

⁴³ The World Bank (2013).

⁴⁴ Hassett and Shapiro (2011).

⁴⁵ Ibid.

⁴⁶ World Economic Forum (2013).

Conclusion

This paper demonstrates that participation in GVCs in services enhances trade and economic growth for emerging economies. By focusing on the example of Costa Rica, the paper shows how a small developing economy has transformed its industry and become one of the main actors in 21st century trade and investment patterns. Costa Rica's determined bet on services seems likely to help the country continue its recent growth trajectory, so long as it tackles some of the challenges undermining its competitiveness.

The conclusions drawn from this paper are potentially relevant to many small developing countries, for which GVCs have redefined trade and enabled the identification of possibilities to attract investment and create their own specialized industry within value chains. Large firms that used to be predominantly located in developed countries are increasingly offshoring part of their production and import intermediate inputs, spreading production over different countries and in so doing have made value chains global.

Countries that accept this reality can achieve 'economic upgrading' or 'climb the value added ladder.' Climbing the GVC development ladder can be done by improving current processes, increasing the services content of domestic value added in exports and also by diversifying into activities that can involve more sophisticated production processes. This means going firstly from resource-based activities (like processing and selling commodities) to high-tech activities (such as computer microchips) and secondly to knowledge-based activities such as design, innovation, R&D, marketing and branding.

Experience over the past 20 years shows that, as countries increase their participation in GVCs, their growth rates tend to increase too. However, correctly measuring gains from trade in GVCs has come with some controversy. For the past 15 years, there has been an important debate on how to correctly calculate each country's gains within a GVC. This paper considered this challenge and elaborated on the new database to measure trade in GVCs by the OECD and WTO. The TiVA takes into account the difference between domestic and foreign inputs (or added value) and uses an international input-output table that clearly measures the origin and value of intermediate goods. Although this tool does not yet include every country, it demonstrates how gains can be obtained from trade in GVCs and enables reshaping of local policies for countries that wish to develop activities that can bring larger economic gains.

An interesting characteristic of GVCs in services is that not only do higher value added services bring higher trade gains for a country's economy, but also that shifting from manufacturing goods to producing services can be beneficial to a country's growth. The 'smiley face curve' demonstrates that the most value (and knowledge) intensive activities are usually found at the beginning and the end of the chain where intellectual property is created, this is, where services dominate over manufacturing and where they have more value. As a result, a country that shifts its production into services will tend to secure higher gains from trade in GVCs, such as in the case of Costa Rica.

Costa Rica has clearly benefited from the relationship between trade in GVC's and economic growth since the early 1980s. Slowly and steadily it began a state-led transformation of its economy. In the light of such results, Costa Rica has focused on services in order to continue climbing the value added ladder, which has proved to be vital for its economy. In the aftermath of the financial crisis of 2008 and in spite of the country's success in positioning itself into GVCs in high-value goods, Costa Rica has experienced a significant decrease in traditional exports. However, thanks to its bet on services (which now contribute a third of the country's export receipts), Costa Rica's economy largely avoided the impact of the crisis and the continued growth of its service exports has cushioned the deterioration of its external accounts.

Especially in light of Intel's recent departure, there remains a lot of work to be done to improve Costa Rica's competitiveness in services GVCs. The country could also seek ways to lower its reliance on FDI-financed GVCs. Enhancing access of SMEs to finance should also be a major priority. Costa Rica's new government took office in May 2014. It bears a big responsibility in pursuing efforts to further trade, FDI attraction and development through encouraging local and foreign firms to participate in GVCs in services. It is important that policy makers draw useful lessons from the past and focus greater attention on enabling local companies to maximise the opportunities that GVCs provide. Policy makers must also address the issues of Costa Rica's competitive weaknesses. Such sustained steps will improve the likelihood of multinationals entering into partnerships with local firms, in addition to investing directly in the country.

Bibliography

Baldwin, Richard (2013). Global supply chains: why they emerged, why they matter and where they are going. In *Global Value Chains in a Changing World*, Deborah K. Elms and Patrick Low eds. World Trade Organization, Fung Global Institute and Temasek Foundation Centre for Trade & Negotiations.

Borchet, I.,B. Gootiiz and A. Mattoo (2012). *Guide to the Services Trade Restrictions Database*, Policy Research Working Paper, WPS6108. World Bank.

Chacón, Francisco (2014). Interview to former Minister of Communication and Institutional Coordination (2012-2013), Congressman (2010-2012) and Vice-Minister of Foreign Trade (1994-1997) of Costa Rica, 8 March.

CINDE (2014). Official website, Advanced Manufacturing Sector, About the sector. Available from: <http://www.cinde.org/en/investment-sectors/advancedmanufacturingsector>.

CINDE (2013). Annual Report 2012. Available from: <http://www.cinde.org/component/attachments/download/284>.

CINDE (2012). Annual Report 2011. Available from: <http://www.cinde.org/en/about-cinde/annual-report>.

CINDE (2011). Sector Brief Service Sector in Costa Rica. Available from: <http://www.cinde.org/component/attachments/download/263>.

COMEX (2014). Exportaciones totales 1980-2012. Official webpage. Available from: http://www.comex.go.cr/estadisticas/exportaciones/cifras_globales/Cifras%20globales%202012/00_Export_s_total.xlsx.

COMEX (2014a). Exportaciones de servicios por tipo de servicio 1999-2012. Official webpage. Available from: http://www.comex.go.cr/estadisticas/exportaciones/Exportaciones%20de%20servicios/Exportaciones_servicios.xlsx.

COMEX (2013). Official webpage. Available at: http://www.comex.go.cr/politica_comercio/index.aspx.

COMEX (2013a). Press release, 16 January. Available from: http://www.comex.go.cr/sala_prensa/comunicados/2013/enero/CP-1541.aspx.

Drake-Brockman, J. and S. Stephenson (2012). *Implications for 21st Century Trade and Development of the Emergence of Services Value Chains*, ICTSD. Available from: <http://ictsd.org/downloads/2012/11/implications-for-21st-century-trade-and-development-of-the-emergence-of-services-value-chains.pdf>.

ECLAC (2004). Estudio Económico de América Latina y el Caribe, 2003-2004, United Nations Publications September.

Flores Sáenz, Juan José (2012). *Nivel de encadenamiento de las empresas de servicios en el régimen de zona franca de Costa Rica:1997-2010*. University of Costa Rica, Instituto de Investigación en Ciencias Económicas. Available from: http://www.cepal.org/comercio/tpl/contenidos/encadenamiento_empresas_servicios_CR_Flores.pdf.

Gereffi, Bamber, and others (2013). *Costa Rica In Global Value Chains: An Upgrading Analysis*. Centre on Globalization, Governance & Competitiveness (CGGC), Duke University. Available from: http://www.cggc.duke.edu/pdfs/2013_08_20_Ch1_Project_Introduction.pdf.

Gereffi, Gary and Karina Fernandez-Stark (2011). *Global Value Chain Analysis: A Primer*, Centre on Globalization, Governance & Competitiveness (CGGC), Duke University. Available from: http://www.cggc.duke.edu/pdfs/2011-05-31_GVC_analysis_a_primer.pdf.

González, Anabel (2012). Intervention in WTO's Public Forum 2012, Session 22: High-level Session: Global value chains – implications for trade policy, Sub-theme II: Addressing 21st-century issues, September.

Grau Tanner, Carlos (2012). *Benefits of Trade Facilitation: The Case of Costa Rica*. The Global Enabling Trade Report 2012. World Economic Forum.

Hassett, Kevin and Robert Shapiro (2011). What Ideas Are Worth: The Value of Intellectual Capital And Intangible Assets in the American Economy. Sonecon, LLC, United States of America, September. Available from: http://www.sonecon.com/docs/studies/Value_of_Intellectual_Capital_in_American_Economy.pdf.

IMF (2013). Costa Rica 2012 Article IV Consultation IMF Country Report No. 13/79 March.

IMF (2013a). Trade Interconnectedness: The world with global value chains August 26. Available from: <http://www.imf.org/external/np/pp/eng/2013/082613.pdf>.

Kommerskollegium (2013). *Global Value Chains and Services – An Introduction*. National Board of Trade, Sweden, February. Available from: http://www.usitc.gov/research_and_analysis/documents/report-global-value-chains-and-services-an-introduction.pdf.

Low, Patrick (2013). *The role of services in global value chains*. In Global Value Chains in a Changing World, Deborah K. Elms and Patrick Low eds. WTO, Fung Global Institute and Temasek Foundation Centre for Trade & Negotiations.

McGill University and the Conference Board of Canada (2012). *SME Manufacturers in Quebec: Adding services to boost competitiveness and the bottom line*, 25 July. Available from: http://www.dec-ced.gc.ca/eng/publications/economic/studies/2012/268/index.html#sectn_2

OECD (2013). OECD-WTO Database on Trade in Value added. Measuring trade in value added, May. Available from: <http://www.oecd.org/sti/ind/TIVA%20flyer%20FINAL.pdf>.

OECD (2013a). Remarks by the President of the Republic of Costa Rica, Her Excellency Laura Chinchilla Miranda. Meeting of the OECD Council, Paris, France, 5 November. Available from: <http://www.oecd.org/countries/costarica/remarks-by-the-president-of-the-republic-of-costa-rica-november-5-2013.htm>.

OECD (2012). G20: *Understanding Global Value Chains*, Intervention by Angel Gurría, OECD Secretary-General, delivered at the G20 Trade ministers meeting, Puerto Vallarta, México, 19 April. Available from: <http://www.oecd.org/about/secretary-general/g20understandingglobalvaluechains.htm>.

OECD, Development Centre (2012). *Attracting Knowledge-Intensive FDI to Costa Rica: Challenges and Policy Options*. OECD Development Centre, Making Development Happen, Series No. 1, 31 July 31. Available from: <http://www.oecd.org/dev/americas/E-book%20FDI%20to%20Costa%20Rica.pdf>.

OECD-WTO (2013). *Trade in value added: concepts, methodologies and challenges* (joint OECD-WTO note). Available from: <http://www.oecd.org/sti/ind/49894138.pdf>.

PROCOMER 2010. Visión Estratégica 2010-2012. Available from: <http://www.procomer.com/contenido/descargables/vision-memoria/vision-procomer.pdf>.

Rodríguez, Andrea (2013). Costa Rica exportó más servicios que productos agrícolas durante el 2012. *La Nación* 2 April. Available from: <http://www.nacion.com/2013-04-02/Economia/Costa-Rica-exporto-mas-servicios-que-productos-agricolas-durante-el-2012.aspx>.

Stephenson, Sherry (2012). *Services and Global Value Chains*. World Economic Forum, The Shifting Geography of Global Value Chains: Implications for Developing Countries and Trade Policy. Available from: http://www3.weforum.org/docs/WEF_GAC_GlobalTradeSystem_Report_2012.pdf.

The World Bank (2014). Costa Rica: Data. Available from: <http://data.worldbank.org/country/costa-rica>. Accessed 9 January 2014.

The World Bank (2014a). GINI index: World Data. Available from: <http://data.worldbank.org/indicator/SI.POV.GINI>. Accessed 16 January 2014.

The World Bank (2013). *Doing Business 2014 Understanding Regulations for Small and Medium-Size Enterprises*. International Bank for Reconstruction and Development/The World Bank. Available from: <http://www.doingbusiness.org/~media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB14-Full-Report.pdf>.

The World Bank (2013a). 2013 *Report International Property Rights index*. Available from: <http://www.internationalpropertyrightsindex.org/ranking>.

The World Bank (2012). Logistics Performance Index, LPI Results 2012. Country Score Card: Costa Rica 2012. Available from: <http://lpi.worldbank.org/international/scorecard/radar/254/C/CRI/2012#chartarea>.

The World Bank (2006). *Costa Rica: The Challenges for Sustained Growth*. Costa Rica - Country Economic Memorandum, Washington, DC. Available from: <http://documents.worldbank.org/curated/en/2006/09/7112164/costa-rica-country-economic-memorandum>.

The World Bank (1997). *Costa Rica: Identifying the Social Needs of the Poor: An Update*. Central American Department, Latin American and Caribbean region, Poverty Reduction & Equity, Poverty Profile, Report No. 15449-CR, May 12.

Trading Economics (2014). Costa Rica, GDP. Available from: <http://www.tradingeconomics.com/costa-rica/gdp>.

UNCTAD (2013). Speech by James Zhan, Director of UNCTAD's Division on Investment and Enterprise, at the Trade and Development Board session of 20 September 2013. Available from: http://unctad.org/es/paginas/newsdetails.aspx?OriginalVersionID=608&Sitemap_x0020_Taxonomy=Investment%20and%20Enterprise.

UNCTAD (2013a). World Investment Report 2013: Global Value Chains: Investment and Trade for Development. United Nations Publication. Available from http://unctad.org/en/PublicationsLibrary/wir2013_en.pdf.

UNDP (2014). Income Gini coefficient: Costa Rica. UNPD official webpage, Operations, Transparency, Open Data, Data By Country/Unit. Available from: <https://data.undp.org/dataset/Income-Gini-coefficient/36ku-rvrj>.

World Economic Forum (2013). Country/Economy Profiles: Costa Rica. The Global Competitiveness Report 2013–2014. Available from: <http://www3.weforum.org/docs/GCR2013-14/CostaRica.pdf>.

World Economic Forum (2013a). Enabling Trade Valuing Growth Opportunities. Geneva, Switzerland. Available from: http://www3.weforum.org/docs/WEF_SCT_EnablingTrade_Report_2013.pdf.

World Economic Forum (2011). *Costa Rica's Efforts Toward an Innovation-Driven Economy. The Role of the ICT Sector* Chapter 2.1 of The Global Information Technology Report 2010–2011. Available from: <http://reports.weforum.org/wp-content/pdf/gitr-2011/03-part-2/2.1-costa-ricas.pdf>.

WTO (2010). *Participation of Developing Economies in the Global Trading System*, document number WT/COMTD/W/172/Rev.1, Appendix 9, 21 January. Available from: http://www.wto.org/english/tratop_e/devel_e/d1who_e.htm.

WTO and Institute of Developing Economies-Japan External Trade Organization (2011). *Trade patterns and global value chains in East Asia: From trade in goods to trade in tasks*. Available from: http://www.ide.go.jp/English/Press/pdf/20110606_news.pdf.



FSC is an independent, non-governmental, not for profit organization established to promote the responsible management of the world's forests.

Printed by ITC Reprographic Service on FSC paper, which is environmentally-friendly paper (without chlorine) using vegetable-based inks. The printed matter is recyclable.

A free pdf is available on ITC's website at:
www.intracen.org/publications



Street address
International Trade Centre
54-56 Rue de Montbrillant
1202 Geneva, Switzerland

P: +41 22 730 0111
F: +41 22 733 4439
E: itcereg@intracen.org
www.intracen.org

Postal address
International Trade Centre
Palais des Nations
1211 Geneva 10, Switzerland

The International Trade Centre (ITC) is the joint agency of the World Trade Organization and the United Nations.