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Production Sharing

Francisco Monge-Ariño

Ministry of Foreign Trade of Costa Rica

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Costa Rica: Trade Opening, FDI Attraction and Global Production Sharing¹

Francisco Monge-Ariño²

Abstract

Costa Rica has managed to combine an active agenda in the Multilateral Trade Negotiations (MTNs) at the WTO with the negotiation of several Preferential Trade Agreements (PTAs). Such PTAs, most notably those with the US, China and the EU, will boost the share of total exports benefiting from preferential access in the destination markets from 24% to over 83%. Along this path of trade liberalization, the country has placed a strong emphasis on the attraction of Foreign Direct Investment (FDI) in high-tech manufacturing and services activities, producing a substantial transformation in the structure of its exports and inserting a fair share of the economy into Global Value Chains (GVCs)³. As a result, about 43% of the country's total exports are related to GVCs, with an average of 36% of such exported value being added domestically. Labor and capital employed by GVC-participating firms account for about 40% of the domestic contribution to exports, while locally-provided services and supplies account for almost one sixth and one tenth, respectively. In turn, the relative importance of different services is quite variable across the GVCs identified.

Keywords: Global value chains, Costa Rica

JEL Classification: F13, F14

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² Trade Negotiator and Research Coordinator of the Ministry of Foreign Trade of Costa Rica.

³ A Global Value Chain can be understood as an international production-sharing scheme in which the different stages of a production process are spread over several countries around the world. Therefore, GVCs tend to be characterized by larger trade of intermediate inputs than that of final goods or services.

I. Introduction

Costa Rica is perhaps one of the Latin American countries that have embraced more strongly the process of trade liberalization as one of the key development strategies for the mid and long run.

The process of trade liberalization started in the mid 1980's and ever since has delivered positive results in terms of economic growth and a more robust and diversified production structure, particularly after the negotiation of several PTAs. This process has been complemented with a strategy to boost the attraction of FDI, thus allowing for further diversification of Costa Rica's export portfolio, particularly of high-tech manufactured goods.

Such strengthening and diversification of the export portfolio have inserted a significant share of Costa Rica's foreign trade flows into GVCs, thus taking advantage of the opportunities that global production sharing schemes offer for countries with specific comparative advantages.

One of the issues regarding global production sharing that is at the top of research and discussion nowadays, has to do with the fact that the values exported by a country participating in GVCs cannot be taken as the correct measure of its contribution to global production sharing. By its own nature, global production sharing involves increasingly larger flows of trade in intermediate goods and services, as pointed out by Miroudot *et al.* (2009). Therefore, it is critical to measure the extent of the domestic contribution to the value exported to GVCs, as well as the composition of such contribution.

For these purposes, the paper contains three additional sections. Section II documents and analyzes the way in which Costa Rica has combined its active participation in multilateral negotiations with the negotiation of several PTAs, highlighting the main features of each as well as the main results delivered.

Section III presents the main GVCs identified in which Costa Rica participates and the estimation of the domestic component of GVC exports and its composition. Finally, section IV summarizes the main conclusions and policy recommendations.

II. PTAs: A Complementary Strategy to Foster Trade and Growth

Even before the WTO was established, Costa Rica has actively participated in both multilateral and bilateral negotiations, contributing to the advance of the former as much as to the enlargement of the so-called "spaghetti bowl" that the latter have formed. Such a dual interest stems from understanding that, as PTAs allow for a deeper and faster liberalization of trade with certain strategic partners, it is worth having and strengthening multilateral rules that provide for security and predictability to trade, an efficient and reliable dispute settlement mechanism to enforce such rules, as well as a forum for multilateral negotiations towards further trade liberalization.

Costa Rica's trade liberalization starts in the mid 1980's, when the first significant unilateral reduction of import tariffs was undertaken, in an attempt to reduce the anti-

export bias and facilitate the increase and diversification of the country's exports. This was favored as well by the issuing of the Law on Export Processing Zones and the Law on Tourism, which contributed to propel the attraction of FDI. As a result of this first step of unilateral trade liberalization, the average import tariff went from 46.3% in 1982 to 16.8% in 1989⁴.

In 1990, Costa Rica took the next leap-frog of its trade liberalization process by completing its accession to the GATT and becoming its 100th member. The following years, as the country actively participated in the negotiations of the Uruguay Round, its foreign trade flows benefited from the successful results of the 1992 and 1993 dispute settlement cases on bananas, since their results allowed Costa Rica to negotiate a satisfactory agreement on the matter with the European Communities.

Costa Rica became one of the first Members to test the new Dispute Settlement Mechanism under the WTO in the first panel on textiles (1995), obtaining a ruling that restored the access to the US market for about US\$ 100 million worth of cotton underwear exports. After 1995, Costa Rica also participated in the Uruguay Round built-in agenda negotiations, in particular on financial services and the review of the Dispute Settlement Understanding. It also became an earlier supporter and signatory of the Information Technology Agreement (ITA), a multilateral trade liberalization instrument which contributed to Costa Rica's insertion into GVCs and the consequent change in the structure of its exports in the late 1990s.

As part of its participation in the WTO from 1995 on, delegates from the Permanent Mission of Costa Rica to the WTO have served on several dispute settlement panels, and chaired a number of bodies such as the Council for Trade in Goods (1998), the Working Group on Transparency in Government Procurement (1998-2004), the Information Technology Agreement Committee (1998), the Committee on Regional Trade Agreements (2004 and 2005) the Committee on Anti-Dumping Practices (2004) and the Dispute Settlement Body Special Session (since 2006).

Costa Rica became part of the Friends of a New Round Group, which promoted the launching of it since 1997 with a view to deepen multilateral trade liberalization. Since the launch of the Doha Round in 2001, the country has actively participated in the negotiations and promoted ambitious results that would reduce and eliminate trade distortions and barriers both in Agriculture and NAMA, as well as in other negotiating areas, such as Trade Facilitation. Costa Rica makes part of several alliances that propel different initiatives within the negotiations, such as the Cairns Group (multilateral liberalization of agricultural trade), the Friends of NAMA and the Middle Ground Group, the Colorado Group (upgrade WTO rules to facilitate trade), as well as the Friends of Anti-Dumping Negotiations Group (strengthening of WTO disciplines on Anti-Dumping). Costa Rica also leads the Tropical Products Group, a group of developing countries which advocate for the fullest liberalization for this sector. This group played a key role in the negotiations and the agreements of 15 December 2008 on bananas, tropical products and preference erosion.

Parallel to its participation in MTNs, Costa Rica started in 1994 an era of PTA negotiations as a building block to improve and deepen access to foreign markets for

⁴ Later on, the continued unilateral liberalization along with the implementation of the Agreements of the Uruguay Round contributed to further reducing the average import tariff, which scored 5.8% by 2004.

Costa Rican exports. As FDI establishing in Costa Rica is mostly directed at exporting, building a strong export platform based on PTAs became also a key component of the investment promotion policy.

Costa Rica's first experience as a member of a PTA dates back to the early 1960's, when the country joined the Central American Common Market (CACM). This PTA had though a different underpinning than that of contemporary PTAs, to the extent it was originally inspired by a regional import substitution strategy, featuring a common external tariff and duty-free treatment for products originating in the member countries. The so-called "Peace Agreements" achieved in Central America during the late 1980's and the later adherence of Central American countries to the GATT, provided the grounds for upgrading the regional integration scheme through the negotiation of supplementary agreements on topics such as rules of origin, sanitary and phytosanitary measures, dispute settlement and safeguard measures.

The first negotiation of Costa Rica in the "contemporary" era of PTAs was with Mexico. In fact, Costa Rica was the first Central American country to negotiate a PTA with Mexico, which entered into force on January, 1995. Moreover, this was the first PTA between developing countries that was based in the new model for trade agreements. As of January 1, 2009, all the products traded between these two countries were already duty-free, except for those excluded from the tariff elimination schedule. As documented by COMEX (2000)⁵, before the agreement trade flows between Costa Rica and Mexico were relatively small and concentrated in a few products, whose shares were quite volatile. The Agreement delivered positive results in terms of trade growth and exploitation of comparative advantages. For example, the number of products that Costa Rica exported to Mexico increased by five fold between 1994 and 2008⁶, and the value of such exports increased by almost ten fold. Also, Mexico became the main destination market for Costa Rican exports of products such as palm oil, some plastic manufactures, illuminated signs, some chocolate preparations and batteries. Moreover, after the first five years the PTA was in force, Costa Rica became the main Central American exporter to Mexico, surpassing Guatemala –Mexico's southern neighbor, a result that remained valid until 2007 and was reversed during the recent international economic crisis. In turn, the value of imports from Mexico increased by almost seven fold between 1994 and 2008. Costa Rica has benefited from increased imports of Mexican products such as medicines, TV sets, plastic-coated cardboard, sanitary towels, sheets of iron or steel, avocados, electrical conductors, refrigerators, shampoos and cars.

The second PTA Costa Rica negotiated is the one with Chile, for which the legal provisions were negotiated at a regional level between Central America and Chile and the tariff schedules were negotiated bilaterally between Chile and each Central American country. Costa Rica was indeed the first Central American country to put in force the PTA with Chile, in February, 2002. As of 2010, 95% of Costa Rican exports may enter the Chilean market free of duties and 82% of Chilean exports can enter the Costa Rican market under the same condition. Such duty-free access to the Costa Rican market will reach 95% in 2013 and tariff elimination will be completed by both countries in 2017, with the exception of those products excluded from tariff elimination.

⁵ Available in Spanish at:

<http://www.comex.go.cr/publicaciones/PublicacionesTodos/Evaluacion%20TLC%20Mexico.pdf>

⁶ The year 2009 was not considered since trade flows were affected by the international economic crisis.

As documented by COMEX (2007)⁷, the trade flows between Costa Rica and Chile have increased after the entry into force of the Agreement and in 2008 they were more than three times larger than those existing before the PTA was in force, although their level is still relatively modest. Several Costa Rican exports have benefited from the increased access to the Chilean market, as it is the case for medicines, food preparations, aluminum sheets, iron and steel manufactures, brassieres, panties and electrical switches. Also, Costa Rica has benefited from cheaper imports of Chilean products such as copper wire, petroleum derivatives, apples, multilayer cardboard, plastic sheets, wines and pinewood.

In the early 2000's, Costa Rica embarked in the negotiation of its first PTA with a developed nation: Canada. The negotiation was completed relatively quickly and the PTA entered into force in November 2002. By 2009, almost 100% of Costa Rica's exports were duty-free in the Canadian market. Costa Rican exports to Canada more than doubled during the first four years the PTA was in force and started in 2007 a declining trend that lasted until 2009. The main export products include pineapples, coffee, car tires, prosthesis, electrical conductors, cotton panties, hairdryers and bananas. In turn, imports from Canada started an increasing trend after the entry into force of the Agreement, which lasted until 2008 and was interrupted in 2009. The main imports include pre-cooked potatoes, roasted malt, cars, paper and cardboard, medicines and fertilizers. Although total trade flows between the two countries have increased after the entry into force of the agreement, they are still smaller than those between Costa Rica and the other two NAFTA members (Mexico and the US).

In the late 1990's and the early 2000's, Costa Rica negotiated PTAs with some Caribbean countries in an attempt to expand the outreach of preferential market access for its exports to neighboring regions, a goal that was perceived as very significant for the success of Costa Rican small and medium-size enterprises (SMEs).

The negotiations with the Dominican Republic concluded in 1998, but the PTA did not enter into force until 2002. Since 2004, all the products traded between Costa Rica and the Dominican Republic became free of duties, with the exception of those excluded from the tariff elimination process. The exports to the Dominican Republic have continuously increased from 2004 on, achieving in 2008 a level four times larger than that prior to the entry into force of the Agreement. The main exports include medicines, food preparations, medical instruments, baby diapers, glass bottles, refrigerators and electrical conductors. Although imports from the Dominican Republic are much smaller than exports, they have also increased since the entry into force of the PTA, increasing by more than fifteen fold between 2001 and 2008. The main imports include manufactures of iron, electrical circuit breakers, palm oil, and plastic tableware and kitchenware.

Besides, the PTA between Costa Rica and the States of the Caribbean Community and Common Market (CARICOM) was signed in 2004, but so far is in force only for Costa Rica, Trinidad and Tobago (since 2005), Guyana and Barbados (since 2006). All the products traded between Costa Rica and these three Caribbean countries are free of duties since 2009, with the exception of those exempted from tariff elimination and some agricultural products for which the duty-free condition is applied seasonally.

⁷ Available in Spanish at:

<http://www.comex.go.cr/publicaciones/PublicacionesTodos/InformeChile5años.pdf>

Trade flows between Costa Rica and the country members of CARICOM have increased since the entry into force of the Agreement, and the growth in exports has been more stable but less pronounced than that of imports, though incapable of reverting the trade surplus observed since 2001. The main exports include medicines, food preparations, glass bottles, caps, cardboard boxes, cleaning preparations, and fresh carrots. In turn, the main imports include petroleum derivatives, iron or steel wire, frozen fish and iron or steel manufactures.

Although the negotiations for a PTA between Central America and Panama started in 2000, Costa Rica and Panama wrapped them up bilaterally in 2007 and it was not until November 2008⁸, that the PTA entered into force between them. An agreement on preferential duties with limited scope was in force between Costa Rica and Panama since 1973, which the PTA notably upgraded by including 98% of the tariff nomenclature in the tariff staging process and containing a comprehensive legal framework that rules bilateral trade between these two neighboring and complementary economies. As of 2010, 87% of the products traded between the countries are free of duties and the tariff elimination process will be completed by 2025. Although only the first stage of tariff elimination has taken place –the second will happen on 2010, the PTA seem to be one of the reasons why Costa Rican exports to Panama kept growing in 2009 despite the effects of the international economic crisis.

Up to this point, Costa Rica had seven PTAs in force –covering altogether about one quarter of the country’s total exports (see Chart 1), six of which were negotiated in about thirteen years. This compendium of seven PTAs account for what could be considered Costa Rica’s first stage of PTA negotiations.

⁸ However, tariff staging started on January 1, 2009.

Chart 1
PTAs Negotiated by Costa Rica

PTA	Current Partners	Entry into force	Exports (US\$ million)		Imports (US\$ million)	
			Average 2007-2009	Share in Total	Average 2007-2009	Share in Total
CACM	El Salvador Guatemala Honduras Nicaragua	23/09/1963	1.244,2	13,6%	587,4	4,4%
Costa Rica - Mexico	Mexico	01/01/1995	223,3	2,4%	810,7	6,1%
Costa Rica - Chile	Chile	15/02/2002	23,2	0,3%	187,8	1,4%
Costa Rica - Dominican Republic	Dominican Republic	07/03/2002	200,8	2,2%	51,8	0,4%
Costa Rica - Canada	Canada	01/11/2002	55,9	0,6%	126,8	1,0%
Costa Rica - CARICOM	Trinidad & Tobago	15/11/2005	45,3	0,5%	59,7	0,5%
	Guyana	30/04/2006	3,8	0,0%	0,0	0,0%
	Barbados	01/08/2006	11,4	0,1%	0,2	0,0%
Costa Rica - Panama	Panama	24/11/2008	391,6	4,3%	227,5	1,7%
CAFTA *	United States El Salvador Guatemala Honduras Nicaragua Dominican Republic	01/01/2009	3.189,4	34,8%	5.443,0	41,1%
Costa Rica - China	China	**	765,1	8,3%	787,5	5,9%
Costa Rica - Singapore	Singapore	**	27,6	0,3%	27,9	0,2%
AACUE	EU - 27	***	1.467,6	16,0%	1.217,8	9,2%
TOTAL			7.649,4	83,4%	9.528,1	72,0%

Source: own elaboration, using data from PROCOMER and BCCR.

* Coverage of exports and imports computed with respect to the United States only.

** Negotiation finished in early 2010 and submitted for legislative approval; entry into force expected in 2011.

*** Negotiation completed in early 2010; legal scrubbing is expected to be completed in early 2011.

After such an intensive and active period of PTA negotiations, the country embarked in the most important project of its contemporary trade policy, the negotiation of a PTA between Central America and the United States –which the Dominican Republic would join later, named CAFTA. Historically, the US has been Costa Rica’s major trade partner, as Costa Rica benefited from the Caribbean Basin Initiative (CBI), a preferential tariff system established by the US in the 1980s. However, the scope of this system of preferences was limited and its unilateral nature was not able to provide the investors and exporters with certainty and stability.

Costa Rica decided to start the negotiations for a PTA with the US with the aim to consolidate and expand the preferential access to the US market, as well as to have a comprehensive and robust set of rules to govern bilateral trade and enhance transparency. One of the most distinctive features of this negotiation is the plurilateral application of the Agreement, meaning that the legal provisions and the tariff schedules granted by each country are not applicable only bilaterally between such country and the US, but also to any other member country of the Agreement. Therefore, CAFTA contributes to update and consolidate the regional integration scheme of Central

America, as it contains provisions on areas such as trade facilitation, public procurement, e-commerce, intellectual property rights, labor and the environment. This is confirmed by the figures of Central America's intra-regional trade, which according to SIECA⁹ has increased at a faster pace after 2006¹⁰.

Beyond the consolidation and expansion of the unilateral preferences previously granted by the US through the CBI, there are four elements of CAFTA that deserve a particular mention in terms of its relevance for Costa Rica. First, this PTA allowed for the participation of private providers in the domestic market for three strategic services that are fundamental for competitiveness: Internet, mobile phones and insurance services. These activities were previously reserved to monopolistic state-owned providers, and several organizations in the country had been claiming for the need to switch to a competition-based scheme in order to increase the quality of the services received by customers.

Secondly, this PTA is the first time in Costa Rica's history of bilateral trade negotiations when full –though highly gradual– liberalization of the agricultural sector takes place. It was a usual practice in the previous PTAs to exempt certain agricultural products from tariff elimination: potatoes, onions, rice, sugar, beans, dairy, poultry, meat and oils. Duties on these products in Costa Rica are also addressed by CAFTA through long-term staging (15 to 20 years) and/or tariff-rate quotas. Such a leap-frog is expected to deliver in the mid-run production efficiency gains as well as welfare gains for consumers.

Thirdly, the comprehensive and robust set of trade rules put in place by CAFTA consolidates an environment of transparency and certainty for investment that boosts the attraction of FDI, particularly as the US has historically been the major provider of FDI for Costa Rica, accounting for more than 50% of the total FDI inflows the country has received over the years. As it will be discussed in the next section, FDI attraction has a strong connection with the insertion of Costa Rican exports into Global Value Chains (GVCs) and to that extent CAFTA can become a powerful instrument to deepen and diversify the portfolio of exports participating in GVCs.

Last but not the least, CAFTA was the first PTA ever approved by popular vote, as Costa Rica celebrated a referendum to decide the future of this trade policy instrument. The discussions previous to the referendum contributed to a significant increase of Costa Rica's population awareness of trade topics, while the result of the election was in itself a vote in favor of the development strategy based on trade liberalization and FDI attraction.

After CAFTA, Costa Rica along with the other Central American countries engaged in the negotiation of an Association Agreement with the European Union (called AACUE because of its initials in Spanish)¹¹, with the aim to pursue a further diversification of the destination markets for its exports –which in turns reduces the expected impact of

⁹http://www.sieca.int/Publico/CA_en_cifras/NewLook/Comercio_Graficas_2000-2009/Archivos/Evolucion_Comercio/Evolucion_Comercio_Intra_archivos/frame.htm

¹⁰ CAFTA's tariff elimination schedules were started on March, 2006, despite the entry into force of the Agreement took place later for some Central American countries.

¹¹ The negotiation started in late October, 2007 and was finished in May, 2010. Entry into force is expected between 2011 and 2012.

international business cycles on the domestic economy, as one sixth of Costa Rica's total exports are sold in the EU (see Chart 1).

AACUE goes beyond the scope of a traditional PTA, to the extent it includes also provisions on cooperation and political dialogue, which are aimed at supplementing the provisions on trade liberalization. Perhaps the most distinctive feature of AACUE is its "region-to-region" approach, which forced the Central American countries for the first time ever to agree on one tariff elimination schedule¹², equally applicable to the products of all countries in the region, based on a "virtual" common external tariff¹³. These elements are expected to help strengthen the degree of integration within Central America, including Panama, which joined the agreement toward the last rounds of negotiation. However, in terms of trade liberalization AACUE is less ambitious than CAFTA, to the extent some agricultural products were exempted from tariff elimination and no further liberalization of trade in services was achieved.

Parallel to the negotiation of AACUE, Costa Rica took a major step again when it decided to set the quest for Asian markets as the next goal of its trade policy. In 2008, Costa Rica and China prepared a joint feasibility study for the negotiation of a bilateral PTA. Based on the results of the feasibility study –which estimated a static increase in Costa Rican exports to China of 16%¹⁴, the two countries decided to start the negotiations in 2009, year in which Costa Rica also started the negotiation of a PTA with Singapore¹⁵.

Previous to the beginning of the negotiations for the PTA with China, 94% of Costa Rica's exports to such country were concentrated on microprocessors and other parts of computers, as both countries participate in the electronics GVC. Such concentration of exports can be explained by two factors: on the one hand, the accession of China to the WTO and the consequent adoption of the Information Technology Agreement (ITA) granted microprocessors duty-free access to the Chinese market; on the other hand, high transportation costs, language and cultural barriers, as well as tariff and non-tariff barriers still prevailing in the Chinese market for most agricultural products, made difficult and costly for Costa Rica to diversify its exports to this Asian country. Therefore, Costa Rica posed in the PTA with China a high expectation to reduce the obstacles to diversify its exports, particularly of agricultural products, given that China is increasingly more reliant on imports to satisfy the needs of its huge population.

The compendium of PTAs negotiated so far by Costa Rica is aimed at consolidating the conditions required to boost FDI attraction –both in goods and services activities, and increase the variety of products exported to the main destinations –particularly to China, such that the country can deepen, expand and diversify its participation in GVCs.

¹² Such "region-to-region" approach also involved the definition of some common criteria in SPS, TBT and free circulation of goods across countries.

¹³ The "virtual" tariff implies that goods subject to a non-harmonized common external tariff will start the staging only in the country with the highest tariff (leading country). The other countries will gradually join the staging process as their tariffs are gradually reached by the declining tariff of the leading country, such that all countries complete the staging process the same year.

¹⁴ <http://www.comex.go.cr/acuerdos/China/Fase%20preparatoria/Estudio%20Facilidad%20TLC%20CR-China.pdf>

¹⁵ Both negotiations (China and Singapore) were finished in early 2010 and submitted for legislative approval. Entry into force is expected by mid-2011.

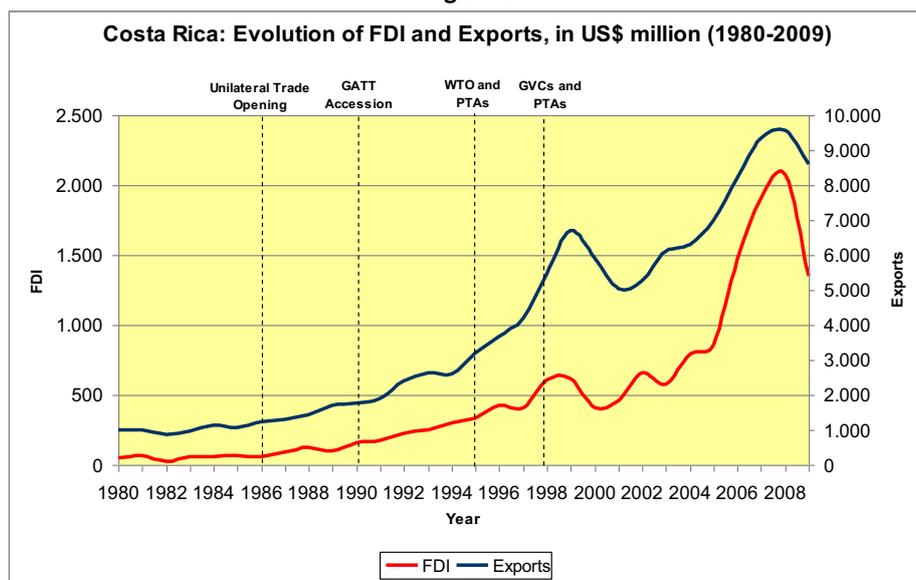
III. FDI Attraction and Global Production Sharing

Attraction of FDI is one of the cornerstones of Costa Rica's development strategy. The skills of Costa Rica's labor force provide an attractive element for firms seeking qualified professionals at a competitive cost. The solid political system of the country provides an important ingredient for the business climate. Country-competitiveness elements that are also fundamental for the business climate have been addressed by the authorities, either under structural reform initiatives or as a result of trade policies undertaken (e.g. CAFTA).

As FDI inflows have been linked to Costa Rica's exports (see Figure 1), perhaps the earliest policies that improved the grounds for FDI attraction were the creation of the Export Processing Zones (EPZ) Regime in the early 1980's and the unilateral trade opening started after the mid 1980's, which contributed to reduce the anti-export bias¹⁶. Other significant improvements in the business climate for FDI attraction took place when Costa Rica completed both its accession to the GATT in 1990 and its adoption of the Uruguay Round Agreements (i.e. its WTO membership), to the extent that the improved rules and enforcement mechanisms governing multilateral trade provided for greater security and predictability to trade and investment. Furthermore, the main highlights from Costa Rica's participation in the WTO –such as the cotton underwear case against the U.S. and the adoption of the ITA, have allowed entrepreneurs and investors to experience for real the increased security and predictability to trade stemming from the multilateral trade system.

In turn, the PTAs negotiated by Costa Rica pointed to strengthening the bilateral trade and investment rules with strategic partner countries, thus offering additional elements to boost FDI attraction from those countries/regions which have been the largest providers for Costa Rica, such as the U.S., Europe, Mexico, Central America and Canada (see Figure 2).

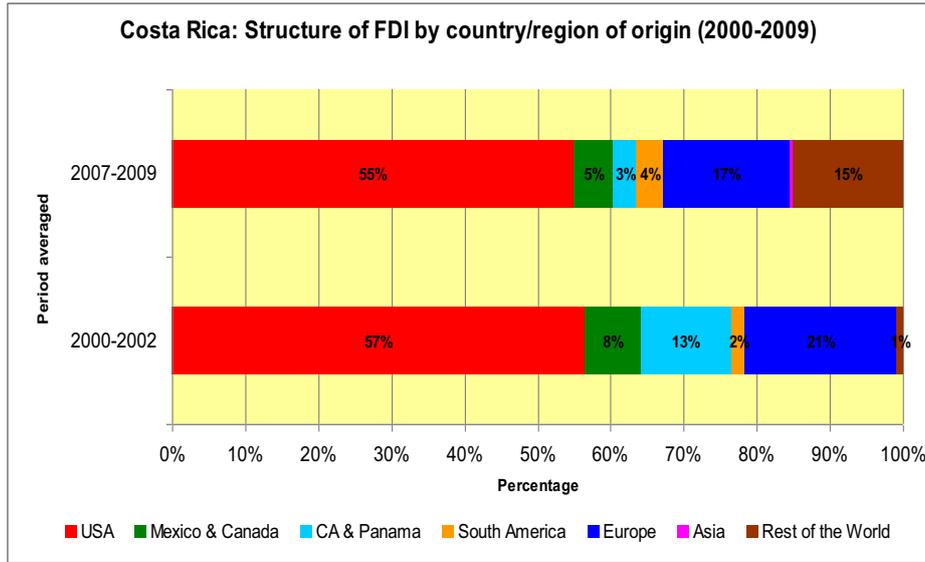
Figure 1



Source: own elaboration, using data from PROCOMER and BCCR.

¹⁶ Monge y González Vega (1994).

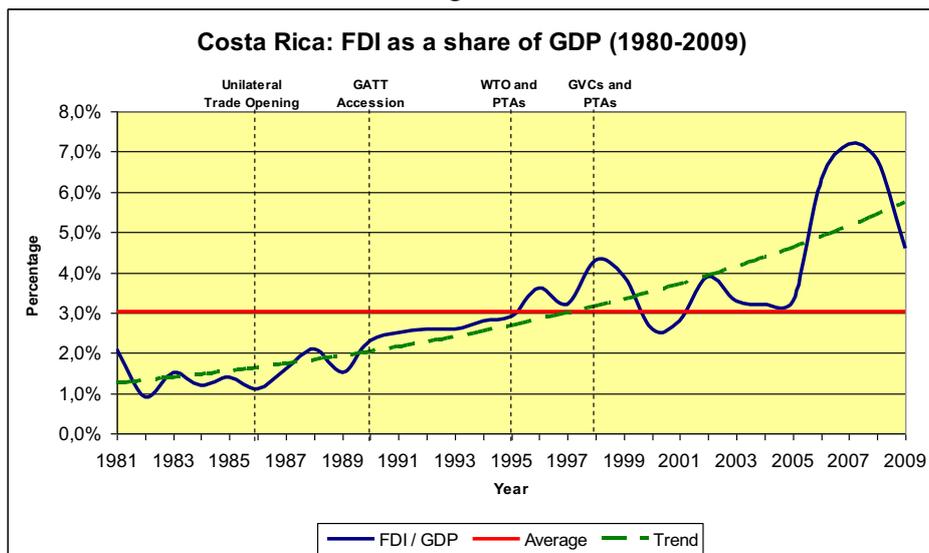
Figure 2



Source: own elaboration, using data from BCCR.

The blend of all these elements has provided a solid base for FDI attraction, which has followed a clear increasing trend in Costa Rica over the last twenty five years (see Figure 3), despite the short-term fluctuations stemming from international business cycles. Moreover, it is worth noting how these sequential building blocks have delivered their payoff, particularly in the last fifteen years, as the rate of growth of Costa Rica's FDI attraction has remained above its long-term average (3%) during the years in which the WTO rules have been in force and its PTAs were negotiated. Not to mention the multiplying effects that investment spreads over the entire economy as well as the positive impact on employment, both through the creation of job positions as well as the increase in the wage standards, particularly for high-skilled workers.

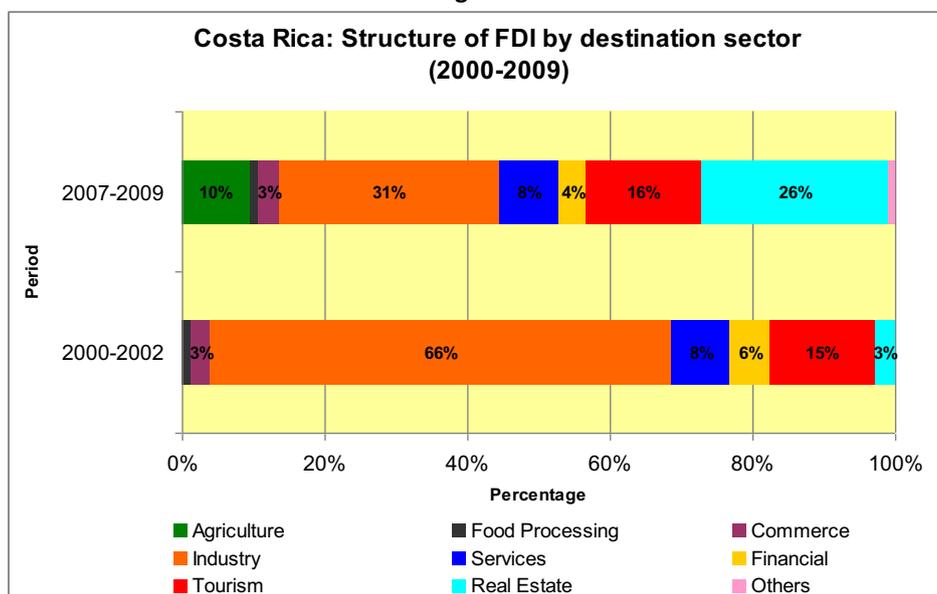
Figure 3



Source: own elaboration, using data from BCCR.

It is also important to point out that, although manufacturing activities still concentrate the largest share of FDI attracted by Costa Rica, its distribution across sectors is becoming more balanced in recent years than it was in the early 2000's, particularly as the shares devoted to agricultural and real estate activities, respectively, have increased (see Figure 4).

Figure 4



Source: own elaboration, using data from BCCR.

FDI attraction has been one of the key elements contributing to Costa Rica's insertion into GVCs. Perhaps the most notorious part of this process started in the late 1990's, after INTEL established in Costa Rica a plant to manufacture computer microprocessors. This turned out to be an inflexion point in the economic history of Costa Rica, to the extent it has produced a significant change in the structure of exports.

The establishment in Costa Rica of firms involved in GVCs has been favoured by the EPZ Regime the country has maintained in place since the early 1980's¹⁷. The Law regulating the operation of the EPZ Regime was updated in 2009, with the objective of assuring both its conformity with the compromises on this matter assumed by Costa Rica in the WTO and its capacity to continue serving as a key element for FDI attraction. As shown in Chart 2, most of the firms participating in GVCs operate in the EPZ Regime.

It is important to mention that Costa Rica's privileged geographical location –a small country in the middle of the Americas with access to both the Pacific and the Atlantic, has also played a significant role for the attraction of FDI and the insertion into GVCs. This, along with the security and predictability to trade brought about by both multilateral and bilateral agreements, creates a robust export platform with preferential access to the largest and most dynamic markets in the world. Not to mention that the World Economic Forum has ranked Costa Rica's quality of the educational system and trade enabling environment first and second, respectively, among Latin American

¹⁷ Monge González, Rosales Tijerino y Arce Alpízar (2005).

countries¹⁸. Indeed, the country is ranked among the top-three safest countries in Latin America.

The profile of the FDI attracted by Costa Rica sheds light on the country's competitive advantages: all the GVCs the country has joined are associated to efficiency-seeking FDI, rather than to natural resources-seeking or market-seeking –as it might be the case for other Latin American countries. As a result, the World Bank has ranked Costa Rica first among both high-tech exporters and per-capita exporters of non-natural resource products in Latin America. In fact, Costa Rica displays the fourth largest share worldwide of high-tech exports to total exports¹⁹.

These figures make it extremely interesting to investigate in detail the extent and main features of Costa Rica's participation in GVCs. Using firm-level data, this study is aimed at identifying and quantifying the economic dimensions of Costa Rica's contribution to GVCs, particularly the share of exports that is produced domestically and the relative contribution of different domestic sectors to such domestic component of GVCs' exports.

As explained by Maurer and Degain (2010), the use of firm-level data to conduct individual case studies can be a good approach when the number of firms involved in GVCs is relatively moderate. As shown in Chart 2, Costa Rica is currently participating in at least five major GVCs: electronics, medical devices, automotive, aeronautic/aerospace and film/broadcasting devices²⁰. Costa Rica's participation in these five GVCs takes place through the exportation of a limited number of products and services (listed in Chart 2) produced in the country by sixty firms, 80% of which operate in EPZs. Moreover, total exports of the products (i.e. goods) listed in Chart 1 account for about 43% of Costa Rica's total exports. These conditions make an ideal case for investigating Costa Rica's contribution to GVCs based on firm-level data.

The list of GVCs in which Costa Rica is participating is consistent with the country's hard work to focus on attracting FDI to strategic sectors where comparative advantages appear to be stronger. An interesting characteristic of these GVCs is that they tend to seek for economies of agglomeration, which provides ground for more links of the GVCs to consider establishing operations in Costa Rica.

As can be seen also in Chart 2, China appears to be the most important destination market for the exports taking place in the Electronics GVC (35% of the total), while the U.S. is the most important destination market for the exports taking place in the other four GVCs (34-75% of the total). Other relevant destination markets are: Hong Kong, Holland, Malaysia, South Korea and Taipei China (electronics); Holland, France, Australia, Central America and Panama (medical devices); Mexico, Central America and Panama (automotive); Germany, Ireland and France (aeronautic/aerospace); and the U.K. (film/broadcasting).

¹⁸ www.weforum.org

¹⁹ <http://data.worldbank.org/sites/default/files/section5.pdf>

²⁰ The Costa Rican Investment Promotion Agency (CINDE) and The Foreign Trade Corporation of Costa Rica (PROCOMER) provided valuable information for the identification of the GVCs and the participating firms.

Chart 2
GVCs Costa Rica has joined

GVC	Total Firms	Firms in EPZ	Average employees per firm	Main Products	Exports 2009 (US\$ million)	Share in Total Exports *	Main destination	Share in GVC Exports
Electronics	10	90%	571	- Computer parts and accesories - Digital microprocessors - Electrical switches - Electronic filters for TV sets	2.196,6	25,5%	China	35%
Medical Devices	25	80%	475	- Needles, catheters and equipment for serum infusion and transfusion - Other medical devices - Devices for electro-diagnose - Devices for electro-diagnose - Medicaments put up for retail sale	1.268,8	14,7%	USA	60%
Automotive	9	89%	273	- Tires - Shock-absorbing systems for cars - Incandescent lamps and electric tubes - Seats for vehicles and their parts - Lubricant or fuel filters - Plastic manufactures for injection equipment - Film and foil of polymers of vinyl chloride - Parts for vehicles' seats	180,0	2,1%	USA	75%
Aeronautic / Aerospace	16	69%	137	- Design of turbines for airplanes - Design and testing of electronic devices for airplanes - Machined parts for airplanes - Printed circuit boards for airplanes - Thermostats - Repair of mother boards for airplanes - Maintenance for helicopters - Metal coatings for airplane parts - Wire harnesses for airplanes - Turbines for airplanes - Lasers for airplanes - Circuit protection gas tubes - Design of plasma engines for space shuttles	21,9	0,3%	USA	34%
Film / Broadcasting Devices	1	0%	N/A	- Tripods for videocameras	20,4	0,2%	USA	53%
Sub-Total	60	80%	---	---	3.687,8	42,8%	---	---
TOTAL	---	---	---	---	8.611,3	100,0%	---	---

Source: own elaboration, using data from PROCOMER, CINDE and BCCR.

*: Includes only exports of goods. The Aeronautic/Aerospace GVC has in addition exports of services that were worth US\$ 41,7 million in 2009.

For the purpose of measuring the extent of Costa Rica's participation in GVCs this paper computes the domestic contribution to the exports that take place in GVCs. This Domestic Component of Exports (DCE from now on) differs from the Value Added computed for a single exporting firm –value of its total sales minus value of its intermediate purchases, either domestic or from abroad, to the extent it includes not only the value added to its exports by each GVC-participating firm, but also the value of all the goods and services it purchased from other firms operating in Costa Rica²¹. Therefore, the DCE is calculated taking into account the geographical location of production rather than the ownership of the factors of production²².

²¹ Although the information available did not allow for a consideration of the imported share of the goods and services provided to each GVC firm by other firms operating in Costa Rica, the share of local supplies in the domestic value added suggests that the impact of this limitation is expected to be rather negligible.

²² For greater clarity, the DCE does not include intra-firm imports.

The sets of information used were available only for the firms that operate in EPZs, given that part of the requirements they must satisfy to remain benefitting from the regime include the submission of a yearly report to PROCOMER. Such a report includes detailed information on sales, purchases, employment, payments and inventories. For the purposes of this study, such a set of information was complemented with the information the firms report to Costa Rican Customs when performing their importation and exportation transactions.

Some of the information required for a precise calculation of the DCE was available only from 2008 onwards –and only for 2009 for a few firms, since the set of information the firms must report was modified in 2007. Therefore, the information available allowed for computing the DCE in 2009 and breaking it down into its main components, but not for obtaining a time series to analyze its evolution over time in recent years. It is also important to keep in mind that the only firm identified as operating in the film/broadcasting devices GVC does not operate in the EPZ regime, and so the results of the study are limited to the other four GVCs in which Costa Rica participates.

The general results obtained for the DCE in each GVC are shown in Figure 5. The overall average for the DCE was 36% in 2009 and the firms' individual scores ranged between 16% and almost 100%. In fact, the highest DCE scores correspond to services-exporting firms which do not import any intermediate service for their production process.

The GVCs with the highest average DCE were aeronautic/aerospace and medical devices, scoring 71% and 59% respectively. In the case of the former, the high average can be explained by the fact that two thirds of its exports correspond to services activities which score the highest DCE percentages overall. In regards to the latter, the high average DCE seems to respond –at least in part, to the growing domestic capacity to provide some services that had to be purchased abroad in the past²³. It is worth noting as well that these two GVCs are the ones with the largest range of variation for the firms' individual DCE scores.

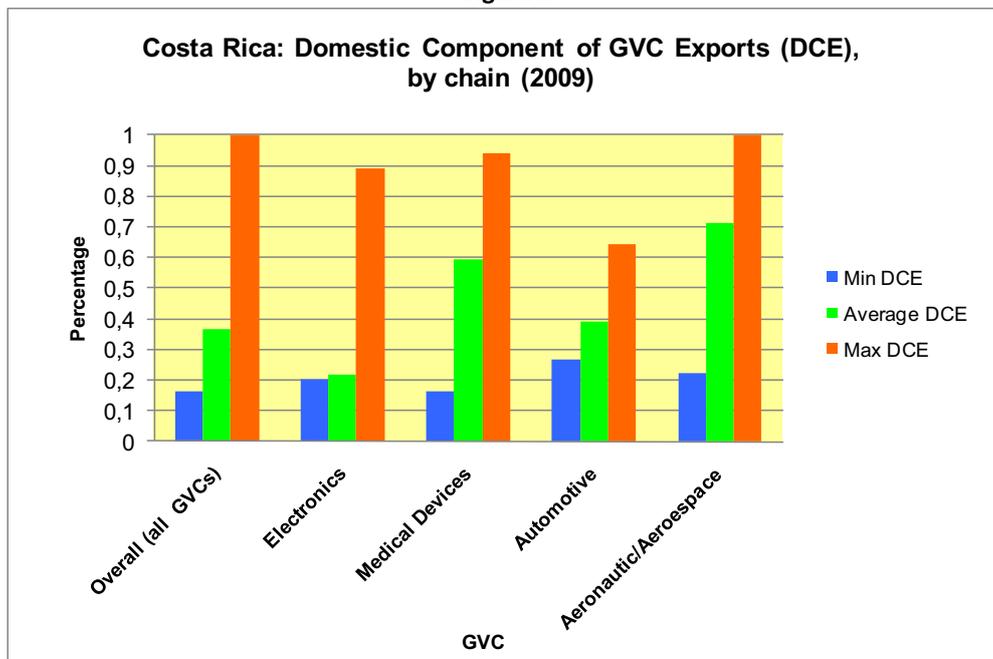
In turn, the GVC with the lowest average DCE is electronics, which probably responds to the fact that the production of this chain is highly globalized and still receives a considerable share of intermediate inputs from other countries. Curiously, the automotive GVC scored the DCE that is closest to the overall average and at the same time it displays the lowest range of variation across the firms' individual DCE scores.

It is also interesting to dig into these DCE percentages to see how they are made up, this is, the extent to which each one of the different domestic sectors contribute to it. Figure 6 presents the breakdown of the DCE into its main components, namely the contribution of labor and capital, the shares of local supplies and domestically provided services, as well as the share corresponding to profit and taxes.

²³ For example, the firms producing medical devices require a special sterilization service for their products, which in the past was provided in Puerto Rico. Currently, such sterilization service is provided in Costa Rica.

Labor²⁴ contributes with one quarter of the DCE in the electronics and medical devices GVCs, a figure that is similar to the overall average and smaller than the ones for the automotive and aeronautic/aerospace GVCs –one third and more than half of their DCE, respectively. It is likely that the high share of labor in the DCE for the latter can be explained by the relative importance of the services-exporting firms, which by the nature of their production process tend to rely more intensely on labor.

Figure 5



Source: own elaboration, using data from PROCOMER.

Physical capital²⁵ contributes overall with one sixth of the DCE, a figure that is resembled only in the automotive GVC. The medical devices and aeronautic/aerospace GVCs scored the smallest shares of capital in the DCE –roughly about 5%, while the electronics GVC scored the highest contribution of capital (one quarter of its DCE). This is likely associated to the relatively larger participation of machinery and equipment in the production process of the electronics GVC.

So far, the joint contribution of labor and capital accounts for 60% of the DCE in the aeronautic/aerospace GVC and about one half of the DCE in the electronics and automotive GVCs. Only the medical devices GVC scores a joint contribution of labor and capital that is below the overall average (28% vs. 41%). Indeed, the GVC firms' direct contribution²⁶ to the DCE seems to be skilled labor-intensive overall and for all individual GVCs, with the exception of electronics, where the figure is more balanced.

The share of local supplies in the DCE is rather low in all cases as well as in the overall average (9%). The electronics and medical devices GVCs present shares similar to the

²⁴ The measure of the contribution of labor used in this study includes both the wages paid to the workers and other labor-related costs paid by the employer, such as the contributions to social security, work insurance and contributions to pension funds.

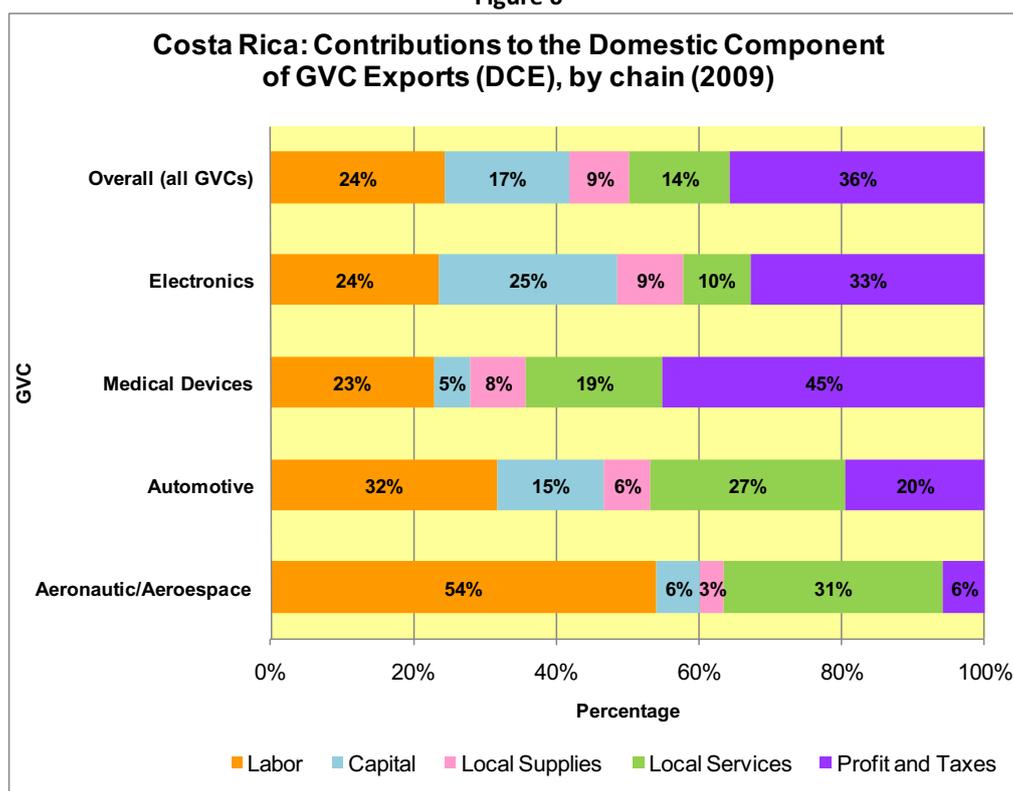
²⁵ The contribution of capital is measured by the depreciation costs reported by the firms.

²⁶ Contribution of labor plus contribution of capital.

overall average, while the aeronautic/aerospace GVC shows the lowest share of local supplies in the DCE (3%).

In turn, the provision of local services shows a more significant participation in the DCE, with percentages ranging between 10% (electronics) and 31% (aeronautic/aerospace), and an overall average of 14%. In the medical devices and automotive GVCs, the contribution of local services to the DCE is almost as important as the contribution of labor, which indicates the significance of services purchased to other firms operating in Costa Rica for their productive processes.

Figure 6

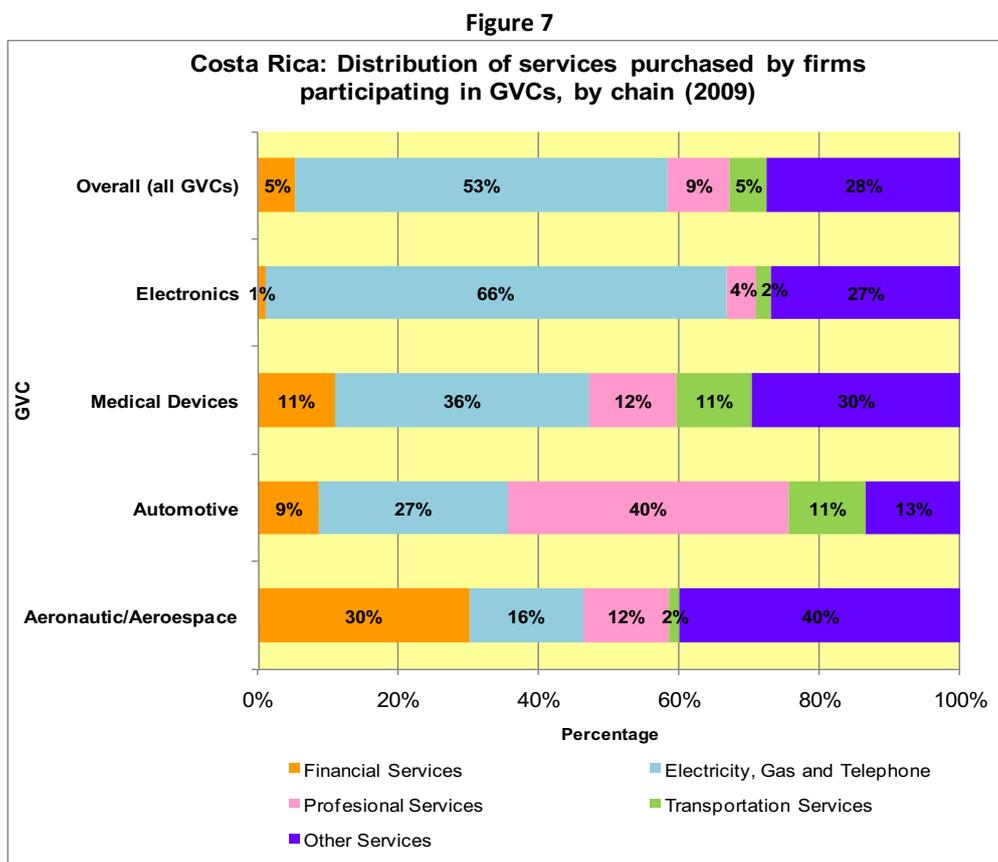


Source: own elaboration, using data from PROCOMER.

In regards to the share of profit and taxes in the DCE, it ranges between 6% (aeronautic/aerospace) and 45% (medical devices), while the electronics GVC scored a share close to the overall average (33% vs. 36%, respectively) and the automotive displayed a contribution of one fifth of its DCE. According to CINDE, a considerable share of these profits happen to be reinvested by the firms in order to expand their productive capacity, so that about 60% of the total FDI taking place within the EPZ regime corresponds to reinvestments. Therefore, larger profits tend to translate into a larger likelihood that the GVC firms could expand their operations in the country.

The figures of the contribution of local services to the DCE make it interesting to explore the participation of different types of services. However, it is important to bear in mind that the data set available for this purpose does not distinguish between imports of services and services provided domestically, but rather displays the composition of total services purchased by the firms participating in GVCs.

As shown in Figure 7, the provision of financial services accounts for a modest share of total services both overall (5%) and for all individual GVCs (11% or less), with the exception of the aeronautic/aerospace one, for which financial services represent 30% of total services purchased. An interesting case is the one of the electronics GVC, where financial services account merely for 1% of total services purchased.



Source: own elaboration, using data from PROCOMER.

A similar result is observed for professional services, which present an overall average share of 9% and shares of 12% or less in all GVCs, except for the 40% scored by the automotive GVC. Once again, the electronics GVC presents the lowest share for professional services (4%).

Much larger shares are found for utilities (electricity, gas and telephone), with 16% being the lowest (aeronautic/aerospace) and the overall average reaching 53%²⁷. Such a figure is greatly influenced by the electronics GVC, for which two thirds of the services purchased correspond to utilities. This result seems somewhat consistent with the relatively intense use of physical capital by the electronics GVC, as discussed before. In turn, the medical devices and automotive GVCs scored shares of 36% and 27%, respectively, for utilities.

Finally, transportation services have relatively modest shares in total services, with 11% being the largest (medical devices and automotive GVCs) and an overall average of 5%. The electronics and aeronautic/aerospace GVCs present shares below the average (2%

²⁷ As electricity, gas and telephone correspond to public utilities provided domestically, this means that more than half of the services purchased by the GVC firms correspond to local services.

each) probably due to the characteristics (size and weight) of the products produced by the former and the prevalence of services in the exports of the latter.

Summing up, FDI attraction has played a crucial role for Costa Rica's insertion into GVCs, which has resulted in the establishment of manufacturing and services firms that in 2009 accounted for about 43% of the country's total exports. The capacity to keep this figure increasing and spreading over other products and services is expected to increase as a result of the PTAs negotiated by the country as well as its continued participation in the Multilateral Trade System.

IV. Conclusions and Policy Recommendations

Costa Rica has combined since the mid 1980's a continuous process of trade liberalization –both at the multilateral and bilateral level, with a sustained policy for the attraction of FDI. In particular, the eleven PTAs that Costa Rica has negotiated with 42 countries provide for security and predictability to 83% of the country's total exports.

These set of trade and investment rules, along with Costa Rica's remarkably stable political and social environment, its long standing commitment to invest in education and healthcare, its solid EPZ regime, and its privileged geographical location, have combined altogether to create a robust export platform that has transformed the structure of production and exports. As a result of such export platform, 43% of Costa Rica's total exports are integrated into five GVCs: electronics, medical devices, automotive, aeronautic/aerospace and film/broadcasting devices.

The main findings of this study reveal that, on average (all firms, all chains), 36% of the value of GVC exports is produced in Costa Rica, a quarter of which is provided to the GVC-participating firms by other firms operating in Costa Rica. In turn, 60% of this domestic outsourcing corresponds to purchases of services and the other 40% accounts for purchases of supplies (goods). The most important outsourced services are public utilities and professional services, except for the case of the aeronautic/aerospace GVC, for which financial services are the most important ones. The prevalence of services over goods in the domestic outsourcing of GVC-participating firms suggests that the country also has potential to expand its participation in GVCs through domestically-provided services.

The PTAs Costa Rica negotiated with China, Singapore and the EU, as well as the multilateral negotiations of the Doha Round, are expected to consolidate the export platform such that the country can increase and diversify its participation in GVCs. For this purpose, the legislative approval of the referred PTAs and the implementation of strategic reforms aimed at achieving further improvements in the business climate should be ranked with priority in the policy agenda. In particular, continued improvements in infrastructure and the educational system are essential to reduce transaction costs and guarantee the availability of the skilled labor that GVCs require.

PTAs have been used by Costa Rica as a tool to complement and expand the benefits stemming from MTNs. To this extent, the negotiation of PTAs with other strategic trade partners may also contribute to broaden the scope and the outreach of the country's export platform, as well as to provide the basis for a more diversified and balanced FDI portfolio.

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