

Costa Rica

Five years after CAFTA-DR: a focus on selected areas

November 25, 2013

Costa Rica and Panama Country Management Unit
Poverty Reduction and Economic Management
Latin America and the Caribbean Region



CURRENCY EQUIVALENTS

(Exchange Rate – October 16, 2013)

Currency Unit = Colón ¢.

US\$1.00 = ¢ 499

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

| | |
|----------|--|
| ADSL | Asymmetric Digital Subscriber Line |
| ARESEP | Regulatory Authority of Public Services (<i>Autoridad Reguladora de los Servicios Públicos</i>) |
| BCCR | Central Bank of Costa Rica (<i>Banco Central de Costa Rica</i>) |
| CAATEC | Country Assistance Strategy |
| CACM | Central American Common Market |
| CAFTA-DR | Central American Free Trade Agreement |
| CAS | Country Assistance Strategy |
| CBI | Caribbean Basin Initiative |
| CCSS | Gross Domestic Product |
| CGE | Computable General Equilibrium |
| CINDE | Costa Rica Investment Promotion Agency |
| CONICIT | National Council for Scientific and Technological Research (<i>Consejo Nacional para Investigaciones Científicas y Tecnológicas</i>) |
| CPAR | Country Procurement Assessment Report |
| CPI | Consumer Price Index |
| CRC | Costa Rican Colon |
| EHPM | Multiple Purposes Household Survey (<i>Encuesta de Hogares de Propósitos Múltiples</i>) |
| EPH | National Household Survey (<i>Encuesta Permanente de Hogares</i>) |
| FDI | Foreign Direct Investment |
| WCIS | World Cellular Information Service |
| FDA | Food and Drug Administration of the United States |
| FONATEL | National Fund of Telecommunications (<i>Fondo Nacional de Telecomunicaciones</i>) |
| FTZ | Free Trade Zone |
| GDP | Gross Domestic Product |
| GTAP | Global Trade Analysis Project |
| HSPA | High Speed Packet Access |
| ICE | Costa Rican Electricity Institute (<i>Instituto Costarricense de Electricidad</i>) |
| ICT | Information and Communication Technology |
| IDH | Human Development Index |
| ILO | International Labor Organization |
| IMF | International Monetary Fund |
| INEC | National Institute of Statistics and Census (<i>Instituto Nacional de Estadísticas y Censos</i>) |
| INS | National Insurance Institute (<i>Instituto Nacional de Seguros</i>) |
| IP | Intellectual Property |
| ITU | International Telecommunication Union |
| LAC | Latin America and the Caribbean |
| LRIC | Long Term Incremental Costs |
| MFA | Multi-Fiber Arrangement |

| | |
|----------|--|
| MGPSP | Ministry of Governance, Justice and Public Security (<i>Ministerio de Gobernacion, Justicia y Seguridad Publica</i>) |
| MICITT | Ministry of Science, Technology and Telecommunications (<i>Ministerio de Ciencia, Tecnologia y Telecomunicaciones</i>) |
| MINAE | Ministry of Environment and Energy (<i>Ministerio de Ambiente y Energía</i>) |
| MINSA | Ministry of Health (<i>Ministerio de Salud</i>) |
| MNVOs | Mobile Virtual Operators |
| MOF | Ministry of Finance (<i>Ministerio de Hacienda</i>) |
| MSM | Microsimulations Models |
| PAHO | Pan American Health Organization |
| PROCOMER | Center for Promotion of Foreign Trade (<i>Promotora del Comercio Exterior de Costa Rica</i>) |
| RACSA | <i>Radiográfica de Costa Rica</i> |
| RETEL | <i>Rectoría de Telecomunicaciones</i> |
| SAM | Social Accounting Matrix |
| SEDLAC | Socio Economic Database for Latin America and the Caribbean |
| SUGESE | Superintendency of Insurance (<i>Superintendencia General de Seguros</i>) |
| SUTEL | Superintendency of Telecommunications (<i>Superintendencia de Telecomunicaciones</i>) |
| TRIPS | WTO Agreement on Trade Related Aspects of Intellectual Property Rights |
| UNCTAD | United Nations Conference on Trade and Development |
| VoIP | Voice Over Internet Protocol |
| WCIS | World Cellular Information Service |
| WDI | World Development Indicators |
| WTO | World Trade Organization |

| | |
|-------------------|--|
| Vice President: | Hasan A. Tuluy |
| Country Director: | Carlos Felipe Jaramillo |
| Sector Director: | J. Humberto Lopez |
| Sector Manager: | Auguste Tano Kouame |
| Sector Leader: | Oscar Calvo-Gonzalez |
| Task Team Leader: | Friederike (Fritzi) Koehler-Geib and Susana Sanchez |

Costa Rica - Five years after CAFTA-DR: a focus on selected areas

Table of Contents

| | |
|---|-----|
| EXECUTIVE SUMMARY | i |
| Background..... | i |
| Trade and FDI Patterns..... | ii |
| High-tech Sector: FDI and Export Performance | ii |
| Insurance: The end of a monopoly, and a new beginning for a market..... | iii |
| Telecommunications and the end of another monopoly | v |
| Intellectual Property Rights in CAFTA-DR and its linkage to Pharmaceuticals in Costa Rica | v |
| MAIN REPORT..... | 1 |
| Chapter 1. The context of CAFTA-DR in Costa Rica..... | 1 |
| 1.1 Introduction:..... | 1 |
| 1.2 CAFTA-DR in its historical context | 1 |
| 1.3 Economic arguments in favor and against CAFTA-DR at the time of ratification..... | 3 |
| 1.4 Legal and regulatory changes with CAFTA-DR | 5 |
| 1.5 Trade and FDI patterns with CAFTA-DR | 6 |
| Chapter 2. CAFTA-DR and High-tech Sector: FDI and Export Performance | 13 |
| 2.1 Introduction..... | 13 |
| 2.2 Costa Rica’s Experience with FTAs and Their Effect on FDI and Exports in High-tech Sector..... | 15 |
| 2.3 CAFTA-DR and FDI in High-Tech Sector: Evidence from Secondary Data..... | 16 |
| 2.4 CAFTA-DR and Exports in High-Tech Sector: Evidence from Secondary Data..... | 18 |
| 2.5 CAFTA-DR, FDI and MNCs Performance in High-Tech Sector: Findings from Online Surveys | 22 |
| 2.6 CAFTA-DR, FDI and Exports in High-Tech Sector: Findings from Structural Interviews | 25 |
| Chapter 3. Insurance: The end of a monopoly, and a new beginning for a market | 27 |
| 3.1 Introduction and Summary: | 27 |
| 3.2 Legislative Change..... | 27 |
| 3.3 Market Dynamics:..... | 29 |
| 3.4 Comparison with CAFTA-DR and ASSAL countries: | 35 |
| 3.5 Interpreting Developments:..... | 37 |
| 3.6 Outlook: | 42 |
| Chapter 4. Telecommunications and the end of another monopoly | 45 |
| 4.1 Introduction and summary | 45 |
| 4.2 Legal and regulatory developments | 45 |
| 4.3 The entry of private providers of mobile-cellular services | 48 |
| 4.4 Liberalization drives improvements in access to telecom services | 50 |
| Fixed telephone services | 51 |
| Fixed internet | 52 |
| Mobile-broadband services | 53 |
| 4.5 Household access to telecom services, prices, and quality of services | 55 |
| Fixed Internet services | 55 |
| Mobile services | 57 |
| Mobile-broadband | 59 |
| Penetration in rural areas vs. urban areas: FONATEL..... | 60 |
| 4.6 The Contribution of the telecommunications sector to the Costa Rican economy | 61 |
| 4.7 Conclusions and remaining Challenges | 62 |
| Tariffs, investments and sustainability | 63 |
| Private operators do not have enough Spectrum | 63 |

| | |
|--|----|
| Infrastructure sharing and municipal permits..... | 64 |
| Universal service and FONATEL | 64 |
| Chapter 5. Intellectual Property Rights in CAFTA-DR and its linkage to Pharmaceuticals in Costa Rica | 65 |
| 5.1 Introduction..... | 65 |
| 5.2 Intellectual property regulations for pharmaceuticals in international trade treaties | 65 |
| 5.3 Data protection, new chemical entities, and patent linkages after CAFTA-DR | 68 |
| 5.4 How has CAFTA-DR’s IP rules affected the CCSS? | 70 |

List of Tables

| | |
|--|----|
| Table 1-1 Top 5 export products 2003 through 2012 in percent of Total | 9 |
| Table 2-1 Survey of MNCs in high-tech sectors..... | 22 |
| Table 2-2 Number and percentages of the answers of the firms to the question of how CAFTA-DR impacted their performance | 24 |
| Table 3-1: Trends in Market Size and Development | 30 |
| Table 3-2: Insurers operating in Costa Rica since liberalization | 32 |
| Table 3-3: Competition, Development and Performance Indicators..... | 34 |
| Table 3-4: Total Assets (CRC Millions)..... | 35 |
| Table 3-5: Expense Ratios (Expenses to Premiums (percent))..... | 35 |
| Table 3-6: Comparative Statistics Indicative of Insurance Markets in CAFTA-DR and ASSAL..... | 36 |
| Table 3-7: Comparative Statistics between Costa Rica, Poland and Uruguay..... | 39 |
| Table 4-1 Concessions for mobile telecommunication service (in US\$)..... | 48 |
| Table 4-2 Phases, Criteria for Selecting Districts for each Phase, Number of Districts and Roads Covered in Cellular Concessions in Costa Rica | 49 |
| Table 4-3 Fixed Internet prices in Costa Rica, US\$ per month, August 2013..... | 56 |
| Table 4-4 Cellular Pre-Paid Rates (US\$)..... | 58 |
| Table 4-5: Tariffs, Prices and Equivalent Tariff for Selected Telecommunication Services..... | 58 |
| Table 4-6 Estimation of Consumer Surplus for Internet Access Services | 61 |
| Table 5-1 Pharmaceutical products with patent linkage protection | 69 |

List of Figures

| | |
|--|----|
| Figure 1-1 Costa Rican Exports (FOB) to the U.S. (2002-2012) in U.S. \$billions | 7 |
| Figure 1-2 U.S. Imports (CIF) from CAFTA-DR Countries (1980-2012) in U.S. \$billions | 7 |
| Figure 1-3 Costa Rica exports to U.S. (US \$millions)..... | 8 |
| Figure 1-4 Costa Rica imports from the U.S. (US \$ millions)..... | 8 |
| Figure 1-5 Share of total export of goods, FOB (%)..... | 10 |
| Figure 1-6 Costa Rica export concentration index of agricultural goods (relative to World average) | 10 |
| Figure 1-7 FDI inflows to Costa Rica by country of origin (% of total FDI inflows) | 11 |
| Figure 1-8 FDI inflows to Costa Rica by sector (% of total FDI inflows)..... | 11 |
| Figure 2-1 Net FDI inflows (% of GDP) | 17 |
| Figure 2-2 FDI inflows by Country of Origin (% of FDI inflows)..... | 17 |
| Figure 2-3 Number of MNCs in high-tech sectors | 18 |
| Figure 2-4 Average FDI inflows in high- tech sector (% of total FDI flows)..... | 19 |
| Figure 2-5 Costa Rica’s Exports and imports of goods and services (% of GDP) | 20 |
| Figure 2-6 Exports of Costa Rica’s FTZs | 20 |
| Figure 2-7 Exports of high-tech and low tech sectors of Costa Rica (% of total exports)..... | 21 |
| Figure 2-8 Exports of Costa Rica to the USA..... | 21 |
| Figure 2-9 Exports of high-tech sector in Costa Rica | 21 |
| Figure 2-10 Number of Surveyed Firms by Year of First Investment..... | 22 |
| Figure 2-11 Top 3 reasons for last investment in Costa Rica (number of surveyed firms) | 24 |

| | |
|---|----|
| Figure 3-1 Explaining non-life insurance penetration trends..... | 31 |
| Figure 3-2 Insurance penetration following liberalization..... | 38 |
| Figure 3-3 The pace and direction of liberalization on market shares: Costa Rica follows a well-worn path | 40 |
| Figure 4-1 Sector structure before and after CAFTA-DR | 47 |
| Figure 4-2 Mobile-cellular lines in Costa Rica, 2003-2012..... | 50 |
| Figure 4-3 Mobile-cellular lines per 100 inhabitants, Costa Rica and selected countries, 2003-2012 | 51 |
| Figure 4-4 Fixed telephone line per 100 inhabitants, Costa Rica and selected countries, 2003-20012..... | 52 |
| Figure 4-5 Fixed internet connections in Costa Rica, 2006-2012..... | 53 |
| Figure 4-6 Fixed internet connections per 100 inhabitants, Costa Rica and selected countries, 2003-2012 | 53 |
| Figure 4-7 Mobile-broadband connections in Costa Rica, 2009-2012 | 54 |
| Figure 4-8 Mobile-broadband connections per 100 inhabitants, Costa Rica and selected countries, 2005- 2012 | 54 |
| Figure 4-9 Usage of telecom services in Costa Rica (percent of households)..... | 55 |
| Figure 4-10 Fixed Internet download speeds in Costa Rica, 2007-2012 | 56 |
| Figure 4-11 Fixed Internet prices of 1 Mb/s, Selected Countries, 2012 | 57 |
| Figure 4-12 Cellular prepaid prices in US cents per minute, Peak for LAC Countries, 2010 | 59 |
| Figure 4-13 Mobile broadband rates for selected countries (% of GDP per capita)..... | 60 |
| Figure 4-14 Telecommunications as percentage of GDP | 61 |
| Figure 5-1 Registration of active ingredients with the Ministry of Health in Costa Rica..... | 69 |
| Figure 5-2 Costa Rica – Patent requests during 2000-2012..... | 70 |
| Figure 5-3 Costa Rica – Patent issues during 2000-2012 | 70 |
| Figure 5-4 Expenditures in Healthcare and Medicine by CCSS | 74 |
| Figure 5-5 CCSS – Composition of Medicine Expenditures, 2007-2012..... | 75 |
| Figure 5-6 CCSS’ Medicines Investments by Type..... | 75 |

List of Boxes

| | |
|---|----|
| Box 2-1 Survey of MNCs in high-tech sectors | 22 |
| Box 3-1: Comparing Czech Republic, Uruguay and Poland | 39 |

List of Annexes

| | |
|---|--|
| Annex 1-1 Legal changes under CAFTA-DR | |
| Annex 1-2 Costa Rica Trade Patterns and Gravity Model | |

ACKNOWLEDGEMENTS

his report was prepared by a team led by Friederike (Fritzi) Koehler-Geib and Susana Sánchez under the overall supervision and guidance of Oscar Calvo-Gonzalez (Lead Economist and Sector Leader, LCSPR), Auguste T. Kouame (Sector Manager, LCSPE), J. Humberto Lopez (Sector Director, LCSPR) and C. Felipe Jaramillo (Country Director, LCC2C). The core team included Cinar Baymul, Mateo Clavijo, Jorge Cornick, Alejandra Castro, Diana Mercedes Lachy, Eric Scharf, Hulya Ulku, Craig W. Thorburn, and Eloy Vidal.

The team also thankfully acknowledges helpful comments and support from Jose Daniel Reyes, Daniela Marrotta, David Gould, Desiree Gonzalez, Cynthia Flores Mora, Patricia Chacon Holt, Patricia Mendez, Aleksandra Iwulska, and Sergio Vargas Tellez.

Special thanks to the Ministry of Foreign Trade (COMEX) for facilitating the preparatory mission for the report and for the support from its staff, especially from Francisco Monge, Karen Chan, Reyner Brenes, Natalia Porras, Carolina Vargas, and Alejandra Aguilar. Furthermore, special thanks to the Costa Rican Investment Board (CINDE) supported the survey of high-tech firms in the FTZ. Additional thanks to the various organizations that supported the report by providing the data used in this report, including the Central Bank of Costa Rica, Caja Costarricense de Seguro Social (CCSS), Costa Rican Electricity Institute (ICE), National Institute of Statistics and Census (INEC), National Insurance Institute (INS), Center for Promotion of Foreign Trade (PROCOMER), Radiográfica de Costa Rica (RACSA), Rectoría de Telecomunicaciones (RETEL), Superintendency of Telecommunications (SUTEL), and Superintendency of Insurance (SUGESE).

Costa Rica - Five years after CAFTA-DR: a focus on selected areas EXECUTIVE SUMMARY

BACKGROUND

Costa Rica has used trade liberalization and promotion of international trade as a core development strategy for decades. As early as 1962, Costa Rica joined the General Treaty on Central American Economic Integration which had been initially signed by El Salvador, Guatemala, Honduras, and Nicaragua in 1960. This initial agreement spearheaded trade integration in Central America that has led to a customs union so far. Liberalizing the movement of workers across the member states is the component of a common market that is outstanding. The Caribbean Basin Initiative was an important step for Costa Rica's trade relationships with the U.S.. On August 5, 1983, the U.S. Congress passed the Caribbean Basin Economic Recovery Act (CBERA), a unilateral trade preferential trade and tax benefits program to support political and economic stability in 27 Caribbean countries and territories including Costa Rica (Dypsky, 2002). This act was amended twice in 1990 and 2000 granting further benefits to the member countries. Due to the nature of this initiative, U.S. Congress had to regularly ratify it and could cancel it or exclude countries at any point. Through the Caribbean Basin Initiative (CBI), Central America was subject to the same terms as Mexico for apparel, and duty-free access was given to approximately 75 percent of Central America's exports to the United States by 2000 (Lopez and Shankar, 2011). Besides the CBI, Costa Rica signed a free trade agreement (FTA) with Canada primarily on the trade of goods, and became the first Central American country with a FTA with a developed economy. In the same year, Costa Rica signed two more treaties with Chile and the Dominican Republic.

In this context, the Dominican Republic-Central America-free trade agreement (CAFTA-DR) has been fundamental in creating a stable and reliable framework for Costa Rica's trade with the U.S.. On August 5, 2004, the U.S. entered into a free-trade agreement with the Dominican Republic and five Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, and Guatemala). Following a national referendum in 2007, with 51.6 percent of voters approving CAFTA-DR, Costa Rica ratified it, and the treaty came into force on January 1, 2009. The agreement consolidated and rendered previously unilaterally extended benefits under CBI into a multi-lateral free trade agreement for the CAFTA-DR member states providing a much more stable and reliable environment for trade relationships (Hornbeck, 2012). Regarding market access, CAFTA-DR generated limited changes relative to the arrangements under CBI.

For Costa Rica CAFTA-DR is more than a trade agreement. Besides eliminating tariffs and reducing non-tariff barriers between member countries, CAFTA-DR also brought serious changes to the legal framework of member countries, reducing barriers to services, promoting transparency, and ensuring a secure and predictable environment for U.S. investors. The most substantial transformation was breaking down the government monopolies in the telecommunications and insurance sectors. The modifications to the legal framework provisionally increased the attractiveness of member countries to foreign investors, aiding them to receive more FDI. Based on the U.S. legal principles, the agreement provides protection for all forms of investment, including enterprises, debt, concessions, contracts and intellectual property (Francois *et al.*, 2007). The e-Commerce chapter of CAFTA-DR introduces the digital product concept and takes measures to block possible future tariffs on these products (Villalobos and Monge-Gonzalez, 2011). CAFTA-DR also meets the labor objectives set out by the U.S. Congress and grants workers improved access to procedures that protect their rights (Francois *et al.*, 2007). Moreover, CAFTA-DR led to the modernization of key norms and procedures in areas such as government procurement and intellectual property rights.

The remainder of this summary is organized around four areas: trade and FDI patterns, high-tech sectors, insurance, telecommunications, and intellectual property rights for pharmaceuticals. Each one of these areas is analysed next in more depth.

TRADE AND FDI PATTERNS

While the purpose of this section is to provide stylized facts on trade patterns over time an identification of the impact of different trade agreements on them appears impossible at this point. The reasons for the difficulty to establish a causal link are multiple.

Costa Rica has experienced significant shifts in its trade flows over the past 20 years with an overall increase in trade integration with the U.S. and Central America in line with its policy to promote and liberalize trade. The estimation of a gravity model of trade gives some indication that in the case of exports some of the increase in trade to the U.S. can be linked to CAFTA-DR while the result is insignificant in the case of imports from the U.S. to Costa Rica.

Over the past two decades, the country has successfully moved up the value chain. The share of traditional exports has been reduced in favor of non-traditional and higher value goods. Moreover, the share of electronic products and medical instruments and appliances in total exports has been constantly rising.

In terms of FDI, the country has been very successful and the composition of the flows has changed considerably since CAFTA-DR with an increasing share of investment in services. Since the year 2000, FDI to Costa Rica has varied between 2 and 7 percent of GDP and stood at 5.1 percent in 2012. The share of FDI with origin from the U.S. has remained high. A major shift in recent years has been the increase in inflows into the services sector which have surged since the signing and ratification of CAFTA-DR.

HIGH-TECH SECTOR: FDI AND EXPORT PERFORMANCE

Although both FDI and exports of Costa Rica's high tech industry have a long-standing history and have been on a steady upward trend since the 1990s, CAFTA-DR is expected to contribute to further developments in the high-tech sectors. The majority of the MNCs in the high-tech sector are from the USA and the agreement was expected to strengthen the attractiveness of Costa Rica as destination for foreign investors. Thus, a review of the FDI and export performance of high-tech sectors (electronics, medical instruments and business service sectors) can provide insights into the short-term impact of CAFTA-DR. The analysis uses secondary data as well as primary data collected through two different surveys from the firms in the high-tech sector: online survey of 61 firms and in-depth interviews of 11 firms. Furthermore, the analysis is conducted in light of key historical developments shaping the high tech sector (*e.g.*, the launch of the FTZs in 1981; arrival of Intel in 1997; ratification of CAFTA-DR in August 2004, followed by a referendum for its approval in 2007; and full commitment to CAFTA-DR in January 2009) and the fact that CAFTA-DR came into effect in the midst of the 2008/09 global financial crisis.

In spite of the adverse effects of the global financial crisis on world economies, the number of total MNCs and the total amount of FDI inflows to Costa Rica increased significantly during the periods following the ratification of CAFTA-DR in 2004 and its implementation in 2009. GDP share of total FDI inflows to Costa Rica also increased substantially after 2004 until the onset of the global financial crisis, during which it dropped significantly, though the decline was still smaller than the regional average, most likely due to CAFTA-DR.

The FDI share of the electronics has been stagnating since 2004, while the share of medical devices and business services has been on an impressive upward path, especially after CAFTA-DR came into force in 2009. The rise in the FDI shares of the medical devices appears to be resulting from increased interest in the sector by American companies following CAFTA-DR, while the rise in the FDI share of the business services sector appears to be largely stemming from the liberalization of the telecommunication sector due to CAFTA-DR.

Total export share of GDP has increased steadily throughout the 1990s and most of the 2000s, with the largest increases taking place after the arrival of Intel in 1997 and signing of CAFTA-DR in 2004, before heading on a downward path since 2007. However, these aggregate figures mask some interesting changes in the composition of the exports of the high-tech industries. Although the export share of the electronics sector has remained largely the same throughout the 2000s, the export share of medical devices has been increasing steadily since 2007 and has not been significantly affected by the financial crisis, most likely due to the arrival of new American companies in the industry after CAFTA-DR. In addition, the IT-enabled sector had the largest boom in its export share during the second half of 2000s, with the biggest increase taking place after CAFTA-DR came into force.

The analysis drawing on the primary data collected through short online surveys and in-person structured interviews provide evidence that CAFTA-DR was an important factor in the investment decisions of a significant number of firms participating in the surveys. According to the data, one of the most important benefits of CAFTA-DR for foreign investors was to reinforce the governments' commitment to liberal trade and FDI-friendly policies and to strengthen the legal framework on the rights of foreign investors. Other important outcomes that were noted were an increase in the competitiveness of the Costa Rican economy through several provisions of CAFTA-DR, including the liberalization of the telecommunication, electricity and insurance sectors, which increased the FDI and exports of the high-tech sector.

Given that CAFTA-DR is still new and that it came into force in the middle of the global financial crisis, many of its anticipated effects will take longer to be realized. Having already achieved most of its early- to mid-developmental goals, Costa Rica's next challenge is to attract FDI at the high-end of the production chain in order to increase the value-added content of the production taking place in Costa Rica, and to establish linkages between foreign investors and local suppliers in order to increase the absorptive capacity and innovation capability of the country.

In order for Costa Rica not to fall into the middle-income country trap, it must seek to transform its economy from being a recipient of innovation to the producer of it. One way of achieving this, as the recent experiences of the Asian Tigers have shown, is to maintain FDI and export-oriented policies on the one hand - as Costa Rica has been successfully implementing during the last three decades - and on the other hand to strengthen the ability of the country to innovate through increased investment in education and infrastructure and through greater exposure to advance technologies.

INSURANCE: THE END OF A MONOPOLY, AND A NEW BEGINNING FOR A MARKET

CAFTA-DR agreement imposed significant change on the insurance sector. A new insurance law was required for the liberalized market, a supervisory authority needed to be established and developed to full functionality, and the *Instituto Nacional de Seguros* (INS), the existing monopoly insurer, needed to adjust to the new environment. Until liberalization, the life insurance sector had been particularly nascent whilst the non-life business showed a penetration above regional comparisons but had tended to follow international pricing cycles with some amplification.

Insurance premium has been growing in a healthy fashion since the liberalization, particularly in the nascent life sector. By 2012 written premiums for all classes of business totaled CRC 466.16bn (USD 924 million), which is already substantial compared to other CAFTA-DR jurisdictions. Non-life premiums represented 80 percent, which in local currency terms was an increase of just over 16 percent over 2011 figures. As would be expected at the time of liberalization, life insurance offered considerable potential to grow given it was substantially less developed.

The market composition in terms of insurers, market share, and product offerings is still developing. Twelve insurers are competing in the market. The market share of the INS has fallen to around 90 percent of the total market (including compulsory classes) and the herfindahl index has reduced to 8,799 and 8,290 for life and non-life segments respectively. The increased proportion of business represented by life insurance and the falling measure of motor insurance as a proportion of total non-life business are both indicators of a maturing market. Further, the product mix for non-life is becoming more diverse, reducing the level of risk to insurers as they have a more diverse portfolio of risks.

The new entrants have overcome the initial costs of establishing operations and innovations in distributions are likely to increase access to insurance products. Legally, intermediation can be conducted through either agents or brokers, both of which can be individuals or companies (i.e., banks, agency companies (63), individual agents (1,692), broking firms (17), and individual agents (177)). In addition there were 49 distributors of mass-marketed insurances and 2 registered cross-border providers. *Seguros autoexpedibles* have promoted innovations in distributions through kiosks, and relationship with banks, retailers, and the post office.

The insurance sector is showing benefits through improved operating performance, solid growth, product innovation, and improved efficiency. Expense rates have reduced by 10 percent during 2010 and 2012, which can be attributed to the impact of competitive initiatives on expense control, innovation from new entrants, as well as the economies that are naturally generated from the increased market size. Moreover, a 20 percent increase in claims ratios (payouts as a proportion of premiums) demonstrates increased value for money to the market and real economy.

The liberalisation dynamics are actually very similar in terms of pace and progress compared to the other countries, but the complete benefits of the initiative are not yet fully captured. New entrants are seeking to compete and innovate, and the incumbent is seeking to defend share and meet new market challenges. These dynamics include the gradual rather than dramatic reduction in INS market share, overall sector growth, and faster growth in life insurance. There is still plenty of distance to travel but the early progress has yielded results and shows the expectations that the future could produce. The improved value, innovations, and dynamism in the sector has already made a positive economic contribution even though the natural process toward a final balance in competition in the market usually takes many years more than we have seen so far - so these early benefits are the tip of the iceberg. The INS has shown a keen interest in being part of the innovations in the sector.

There are some areas that would be useful for policymakers to consider for the future. First, the liberalization of compulsory automobile and occupational risk business will likely require specific attention from SUGESE, particularly regarding adequate statistics for pricing and provisioning, and arrangements for the treatment of cases involving uninsured or unidentified motorists or employers. Second, the expansion by the INS into new business lines and new jurisdictions should be progressed carefully and cautiously, and can benefit from learning the lessons of other entities that have tried and failed in similar endeavors. Finally, continuing supervisory capacity development can be expected to be needed as an ongoing priority as the SUGESE staff continues to grow into their supervisory roles.

TELECOMMUNICATIONS AND THE END OF ANOTHER MONOPOLY

The CAFTA-DR agreement opened the door for private investments on the telecommunication sector. A new telecommunication law was required for the liberalized market, a new regulator, *Superintendencia de Telecomunicaciones* (SUTEL), needed to be established and developed its functionality, and the *Instituto Costarricense de Electricidad* (ICE), the existing monopoly provider, needed to adjust to the new environment. Until liberalization, the telecommunication sector was dominated by ICE, there was a large pending demand for mobile telephone services, prices for Internet access were very high making the service inaccessible for the majority of Costa Ricans, and the Sector was supply-constrained.

Even though market penetration was on the rise before liberalization, the market has showed extraordinary growth in access and price reductions. The forces of competition provided an abundant supply of services, prices for Internet access were reduced dramatically, and Costa Ricans have responded by subscribing massively to the new services. New entrants have been established and are actively competing with the ICE, which is responding to the competitive landscape with its own strategies. All indicators demonstrate that after sector liberalization Costa Rica is well positioned in comparison with Latin American countries of similar GDP/capita. Today consumers can buy a cell line instantly with not waiting as before. Finally, the telecommunication sector contribution to the GDP increased substantially. The Sector attracted large FDI flows, produced a large consumer surplus advantage from the reduction in prices and increased in quantities of Internet access and cellular lines, and made a large contribution to economic growth.

However, as in any liberalization of the Telecommunication Sector in any country, some issues remain. In Costa Rica, these issues are partly due to the fact that the Government still owns the largest telecommunications operator, which is not typical of the majority of Latin American countries. Four important challenges remain regarding tariffs, investment needs, the availability of Spectrum for private investors, infrastructure sharing and municipal permits, and the *Fondo Nacional de Telecomunicaciones* (FONATEL).

INTELLECTUAL PROPERTY RIGHTS IN CAFTA-DR AND ITS LINKAGE TO PHARMACEUTICALS IN COSTA RICA

Intellectual Property (IP) was maybe the most polemic chapter of the Dominican Republic-Central America-United States Free Trade Agreement (“CAFTA-DR”). The CAFTA-DR’s chapter on intellectual property rights is also the only one including regulations that could impact the access to pharmaceuticals in Costa Rica. During the discussions about the treaty, the country was divided among those who argued that intellectual property regulations were going to promote an increase in the price of medicines and those who believed that the provisions sought to incentivize innovative medicines to enter the market.

The local generic industry argued that IP provisions were going to prevent the marketing approval of generic medicines and grant additional exclusive marketing rights by prohibiting drug regulatory agencies to use original pharmaceutical test data for the registration of generic medicines. In their opinion, CAFTA-DR was going to severely restrict or block generic competition. The strongest position against IP rules, stated that with these provisions, it would become economically unsustainable and legally impossible for the country’s social security program, *Caja Costarricense de Seguro Social* (CCSS), to ensure universal coverage and access to medicines for the population in the same manner that it had done before the CAFTA-DR, given that the prices of medicines were going to increase as a result of the agreement and the generic market was going to disappear.

Some of Costa Rica's trade treaties include provisions that are related to medicines and that could impact access to medicines. In the case of CAFTA-DR, its ratification process actually led to the implementation of legislation sensitive to public health, adopted to avoid restrictions in the market for generic companies and to give flexibility to CCSS as follows: a) limiting patent term restoration to a maximum of 18 months; b) the definition of what is considered as an innovative product limited the scope of products subject to protection of test data; and c) safeguard of provisions for parallel importation, compulsory licensing and government use that were already part of Costa Rica's regulation before the CAFTA-DR approval. The CAFTA-DR expressly states that nothing in the agreement will affect a country's ability to take measures necessary to protect public health.

Despite the discussions on the impact that IP provisions would have on the CCSS's financial results and the access to generics, CAFTA-DR did not diminish the state's ability to fulfill its obligations in relation to the right to health of the Costa Rican population, due to the following findings:

- About eight percent of the CCSS's total budget is for medicine expenditures.
- Most of the drugs that are developed every year and registered in the world by pharmaceutical companies are new presentations or formulations of preexisting medicine doses and only a small portion of these products are actually new chemical entities that could receive data protection according to Costa Rica's definition of new chemical entities.
- From 2009 to 2012, 2,541 new active ingredients were registered with the Ministry of Health, of which only 30 received data protection. Only one product with data protection is in the CCSS's Official Medicine List (Tenofovir Disoproxil Fumarate).
- Costa Rica has only granted patent linkage to four pharmaceutical products (or two active ingredients) registered at the Ministry of Health. This means that the marketing approval of generic drugs must await the expiration of the innovative drug's patent before producing those products.
- None of CAFTA-DR's provisions is actually affecting the CCSS's financial balance and there are several studies that confirm that the CCSS's financial crisis is not related to the cost of medicines.
- The analysis of the Pan-American Health Organization (PAHO) of the actual financial crisis at the CCSS showed that expenditures in medicines are not related to this situation.
- The CCSS has added seven active ingredients or 12 pharmaceutical presentations to its Official Medicine List. Only one product with data protection is included in the official list of medicines of CCSS (Tenofovir disoproxil fumarate). The IP rules have not restricted or blocked the purchase of generic products by the CCSS.

MAIN REPORT

Chapter 1. The context of CAFTA-DR in Costa Rica

1.1 Introduction:

CAFTA-DR has been more than a trade agreement for Costa Rica and therefore unraveled a hot debate about its potential impacts on the economy. In particular, the opening of state monopolies in telecommunications and insurance were major changes that CAFTA-DR brought about and polarized the country. As a consequence, the agreement could only be ratified on January 1, 2009 after it had passed a referendum with a small margin in its favor in October 2007. Topics of debate included the impact on overall export and growth performance, on foreign direct investment flows, and sectors such as agricultural, industry, telecommunications, insurance, and health.

Given the interest and controversy prior to ratification, the question emerges what have been the actual impacts of the agreement on the economy. The purpose of the current study is to provide a first stock-taking of these impacts and to potentially identify areas where complementary reform is needed to rip the full benefit of the agreement. Yet, given that only four years have elapsed since the ratification and some provisions are not in force yet, as for example in agriculture, the establishment of causal links is beyond the scope of this analysis. Moreover, the coincidence of the ratification of CAFTA-DR with the global economic and financial crisis represents a challenge for the identification of the agreement's impact. And finally, disentangling the impact of CAFTA-DR from other free-trade agreements as for example the Caribbean Basin Initiative remains a challenge. For these reasons the study presents stylized facts and some indication of the impact of CAFTA-DR without claiming to establish a stringent causal link or being able to disentangle it fully from other effects.

Contributing to the stock-taking of the impact of CAFTA-DR on the Costa Rican economy, the current chapter provides the background of the agreement to set the stage for the sector specific assessments in subsequent chapters. To this end, the chapter first provides the historical context of the agreement, second, gives an overview of the main arguments in favor and against the agreement prior to its ratification, summarizes the main legal changes, and provides stylized facts on trade and FDI patterns.

1.2 CAFTA-DR in its historical context

Costa Rica has used trade liberalization and promotion of international trade as a core development strategy for decades. As early as 1962, Costa Rica joined the General Treaty on Central American Economic Integration which had been initially signed by El Salvador, Guatemala, Honduras, and Nicaragua in 1960. This initial agreement spearheaded trade integration in Central America that has led to a customs union so far. Liberalizing the movement of workers across the member states is the component of a common market that is outstanding.¹ The Caribbean Basin Initiative was an important step for Costa Rica's trade relationships with the U.S.. On August 5, 1983, the U.S. Congress passed the Caribbean Basin Economic Recovery Act (CBERA), a unilateral trade preferential trade and tax benefits program to support political and economic stability in 27 Caribbean countries and territories including Costa Rica (Dypsky, 2002).² This act was amended twice in 1990 and 2000 granting further benefits to

¹ O'Keefe (2009).

² The initial beneficiary countries included Anguilla, Antigua and Barbuda, The Bahamas, Barbados, Belize, British Virgin Islands, Cayman Islands, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Guyana, Haiti,

the member countries. Due to the nature of this initiative, U.S. Congress had to regularly ratify it and could cancel it or exclude countries at any point.³ Through the Caribbean Basin Initiative (CBI), Central America was subject to the same terms as Mexico for apparel, and duty-free access was given to approximately 75 percent of Central America's exports to the United States by 2000 (Lopez and Shankar, 2011). Besides the CBI, Costa Rica signed a free trade agreement (FTA) with Canada primarily on the trade of goods, and became the first Central American country with a FTA with a developed economy.⁴ In the same year, Costa Rica signed two more treaties with Chile and the Dominican Republic. Another instrument for trade policy have been the so called free trade zones (FTZs), which have been developed over time and are an important vehicle for Costa Rica to attract foreign direct investment.

In this context, the Dominican Republic-Central America-free trade agreement (CAFTA-DR) has been fundamental in creating a stable and reliable framework for Costa Rica's trade with the U.S.. On August 5, 2004, the U.S. entered into a free-trade agreement with the Dominican Republic and five Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua). The agreement consolidated and rendered previously unilaterally extended benefits under CBI into a multi-lateral free trade agreement for the CAFTA-DR member states providing a much more stable and reliable environment for trade relationships (Hornbeck, 2012).

For Costa Rica, CAFTA-DR has been more than a trade agreement; the liberalization of the insurance and telecom sectors and regulatory reforms were important steps. Regarding market access, CAFTA-DR generated limited changes relative to the arrangements under CBI. Some improvements over CBI applied to manufacturing where additional tariffs were eliminated for a few products that had been explicitly excluded under CBI preferences, such as canned tuna, shoes, and jewelry. In agriculture, a reciprocal elimination of tariffs consolidated access allowed under CBI and provided some expansion of their zero-duty access for a few new products that had been excluded from the preferences. However, those changes in agriculture were agreed with transition periods ranging from 5 to 20 years depending on the goods to allow for gradual adjustment.⁵ In terms of textiles and apparels CAFTA-DR implied some more flexibility in the rules of origin that should allow zero-duty entry to the U.S..⁶ The main changes occurred through domestic reforms, in the case of Costa Rica, most importantly the liberalizations of the insurance and telecom markets which will be discussed in further detail in subsequent chapters. In addition, key norms and procedures in areas such as government procurement, intellectual property rights, and the treatment of foreign investors were modernized und CAFTA-DR and have the potential to improve the country's investment climate.⁷

Honduras, Jamaica, Montserrat, Netherlands Antilles, Nicaragua, Panama, Saint Kitts and Nevis), Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, and the Turks and Caicos Islands.

³ The Caribbean Basin Economic Recovery Expansion Act of 1990 ("CBI II") was enacted under the Customs and Trade Act of 1990. CBI II amended CBERA by making its trade benefits permanent through the repeal of its 12-year termination date (initially set for September 30, 1995) and implementing certain improvements to its trade and tax benefits. The Caribbean Basin Trade Partnership Act ("CBTPA"), enacted on May 17, 2000 under the Trade and Development Act of 2000, reduces or eliminates tariffs and abolishes most quantitative restrictions on certain products that were previously not eligible for preferential treatment under either CBERA or CBI II. CBTPA is also intended to foster increased opportunities for U.S. companies in the textile and apparel sector to expand co-production arrangements with countries in the CBI region. CBTPA benefits are in effect during a "transition period" that continues through September 30, 2010 or the date, if sooner, on which the Free Trade Area of the Americas or another free trade agreement as described in legislation enters into force between the United States and a CBTPA beneficiary country. There are currently 19 CBERA beneficiary countries. http://trade.gov/mas/ian/ustradelaws/tg_ian_002080.asp

⁴ <http://www.comex.go.cr/tratados/vigentes/canada.aspx>

⁵ Jaramillo and Lederman (2006).

⁶ Jaramillo and Lederman (2006) provide a concise summary of the changes of these sectors under CAFTA-DR.

⁷ Jaramillo and Lederman (2006).

In the beginning of 2009, Costa Rica was the last of the member countries to ratify the agreement after a referendum in October 2007 had passed with a small margin in its favor. A transition period of several years occurred during the ratification of CAFTA-DR in the member states: U.S. Congress signed the bill to implement CAFTA-DR on July 28, 2005, and CAFTA-DR entered into force in CAFTA-DR entered into force in El Salvador on March 1, 2006, in Honduras and Nicaragua on April 1, 2006, in Guatemala on July 1, 2006, in the Dominican Republic on March 1 2007, and in Costa Rica on January 1, 2009. The liberalization of the telecom and insurance sectors in Costa Rica required significant legislative changes allowing access to significant portions of the telecom and insurance market. This led to a strong opposition against CAFTA-DR in the Costa Rican Congress and by social and labor organizations that delayed the ratification of the agreement. Finally, in October 2007, a referendum authorized by the Supreme Electoral Tribunal (TSE) resolved the situation and was approved by the Costa Rican electorate with a narrow margin of 51 percent versus 48 enabling the ratification at the beginning of 2009.

Encouraged by CAFTA-DR, Costa Rica entered into further free trade agreements. In 2011, Costa Rica signed and ratified an FTA with China which included raw materials, intermediate goods, and other merchandise, mainly on electronics. Costa Rica also entered into a regional FTA with Mexico, El Salvador, Guatemala, and Nicaragua which was signed in 2011 and entered into force in Costa Rica in July 2013. Also with Peru and Singapore Costa Rica signed separate FTAs in 2011 which entered into force in April and July 2013, respectively. Finally, the latest development is the negotiation of an association agreement between the European Union and Central American countries including Costa Rica. As most of the other trade agreements the association agreement contains rules for raw materials, intermediate goods, and other merchandise but also covers provisions for openness for European FDI in services such as telecommunications, clean technology, biotechnology, medical industry, and public infrastructure. The trade component of the agreement applies with Costa Rica as of October 1, 2013.

1.3 Economic arguments in favor and against CAFTA-DR at the time of ratification

Given its comprehensive nature, CAFTA-DR unraveled a hot debate about its risks and benefits in Costa Rica polarizing the country in strong opponents and supporters. Given that Costa Rica was the last country in Central America to eventually open up monopolies in telecommunications and insurance the debate in the country was particularly heated. Topics of discussion included the impact on overall export and growth performance, on foreign direct investment flows, and sectors such as agricultural, industrial, telecommunications, insurance, and health sector. While also topics such as labor markets and environmental standards were addressed both by supporters and opponents of the agreement, this section will not discuss them as the later study does not touch upon those.

Prior to the referendum, the debate about CAFTA-DR polarized Costa Rica, and one of the main fears of opponents was that the agreement could harm the agricultural and industrial sectors. The argument was that the agreement would be asymmetrical and unfavorable for Costa Rica due to the U.S. subsidizing its agricultural sector and having a technological advantage as well as market power. Opponents were concerned that the agreement would generate benefits for large-scale-agricultural corporations and already competitive industries only, at the same time as harming small farmers and other small and medium size enterprises. The fear was that the latter would not be able to compete in the face of an influx of highly subsidized U.S. agricultural exports under CAFTA, and that small businesses would be driven out of business, ultimately causing job losses.⁸

Another concern resulted from the opening of the Government-run monopolies in the telecommunication and insurance sectors. While CAFTA-DR did not require the privatization of the

⁸ See Reuters (2007) and PBS (2005).

state-run telecommunications and insurance companies, it led to the opening of both sectors. In this context, strong public sector unions were concerned about job losses and argued that services could become more expensive for consumers.⁹ In the case of the telecommunication sector, opponents of CAFTA-DR argued that private companies would enter into the most lucrative segments of the market such as internet services thereby reducing ICE's (*Instituto Costarricense de Electricidad*, the state owned enterprise providing telecommunication services) ability to subsidize losses in less profitable segments of the market in particular those in rural and poor areas.¹⁰

A third cluster of arguments against the agreement grouped around regulations of intellectual property rights and fears that those would negatively impact the public health care system. In particular, opponents brought forward the argument that stricter rules regarding patent protection would slow down the entry of generic medicines into the Costa Rican market for medicines and consequently drive up prices for medicines. This would harm the provision of services by Costa Rica's social security system, *Caja Costarricense de Seguridad Social* which serves 90 percent of the population.¹¹

In contrast, the main arguments in favor of CAFTA-DR were linked to the stable environment for trade relationships with the U.S. and Central American neighbors and the potentially positive impacts on foreign direct investment and export flows. Supporters of CAFTA-DR brought forward general arguments in favor of FTAs, such as the positive effects on FDI flows of lowering tariffs, expanding market size, reallocating resources efficiently, increasing economies of scale and promoting technology diffusion, and stringent protection of intellectual property rights. In addition, they argued that the new agreement as a multinational trade agreement would generate legal certainty in contrast to its predecessor, CBI, which granted unilateral trade preferences which could be renounced by the U.S. Congress at any point.¹² Moreover, proponents of the agreement mentioned that the other Central American countries had already ratified the agreement and that Costa Rica would not only be exposed to the risk of an end of the preferential treatment under CBI and the loss of legal certainty, but would also lose part of its competitive edge vis-à-vis those countries.¹³ A further argument in favor of CAFTA-DR was that the potentially improved provision of telecom and insurance services in a competitive environment along with improved regulatory processes and the legal certainty of a multinational trade agreement with the U.S. would attract more foreign direct investment to Costa Rica and would ultimately help the country further pursue its strategy to move towards the production of higher value goods and its export- and growth performance.¹⁴

Proponents argued that impacts on the industrial and agricultural sectors would be mainly positive due to adjustments in the sectors already having occurred prior to CAFTA-DR and the emergence of new opportunities. In particular, supporters of the agreement referred to anecdotal evidence from other CAFTA-DR countries which had already ratified the agreement and showed positive impacts on industry and small businesses which benefited more from FTAs than large corporation which did not need FTAs to be competitive in international markets.¹⁵ Moreover, the backers argued that small business owners would not suffer under CAFTA-DR due to wider lines of products to import, export, and distribute. Another argument in the case of agriculture was that Costa Rica's transformation had already

⁹ Latin Business Chronicle (2007a): "CAFTA's Impact on Costa Rica—Costa Rica's approval of CAFTA will be an overall benefit to the Central American country, most experts say", October 15, 2007, <http://www.latinbusinesschronicle.com/app/article.aspx?id=1705>

¹⁰ Council on Hemispheric Affairs (2008): "Contentious CAFTA – A Turning Point for Costa Rica?", April 24, <http://www.coha.org/contentious-cafta-a-turning-point-for-costa-rica/>.

¹¹ Latin Business Chronicle (2007a) and Gonzalez (2006).

¹² See Hornbeck (2012) and Latin Business Chronicle (2007a).

¹³ Upside down World (2007).

¹⁴ Latin Business Chronicle (2007a).

¹⁵ Latin Business Chronicle (2007b).

started over the 25-30 years prior to the negotiations of CAFTA-DR on the back of the country's structural adjustment plans and that agricultural production had shifted from rice, beans, and yellow corn for domestic consumption to the highly successful production for export of pineapples, melons, strawberries, winter vegetables, and the like. Therefore, only little further adjustment in the sector was expected.¹⁶

A third set of arguments in favor of CAFTA-DR related to efficiency gains and benefits to consumers due to potentially lower prices and better service provision. The argument of lower prices due to increased competition was brought forward in the context of almost all sectors. Yet, particularly, in the cases of telecommunications and insurance, supporters of CAFTA-DR argued that the liberalization of the markets would potentially lead to a reduction in price and better coverage as competition would force the state-owned companies to operate more efficiently.¹⁷

Overall, economic research has suggested that complementary reforms would be needed to rip the full benefits that a trade agreement like CAFTA-DR could have. In the case of Central America, Lopez and Shankar (2011) identify infrastructure reforms (differentiating between energy and logistics and transportation), human capital, access to finance, competition policy and enforcement of intellectual property rights as important complements. Specifically for Costa Rica, Jaramillo and Lederman (2006) mention improving road quality, enhancing port and customs efficiency, boosting financial depth, and improving the quality and coverage of secondary education.

The jury on most of the arguments in favor or against the agreement is still out and the current study intends to provide stylized facts and to the extent possible a first analysis to initiate a discussion about the impact of CAFTA-DR so far. While the study can provide tendencies and stylized facts, a rigorous disentanglement of causal effects and attribution of effects to CAFTA-DR exclusively is not possible, due to the relatively short time period that has elapsed since ratification and the difficulty to identify the impact of CAFTA-DR relative to the impact of the international financial crisis and the role of previous and successive trade agreements.

1.4 Legal and regulatory changes with CAFTA-DR

The purpose of CAFTA-DR was the development of trade, investment, employment and production, through the opening and integration of regional trade markets. As done in other free trade agreements previously executed by Costa Rica, CAFTA-DR established a free trade zone between the parties in accordance with the dispositions of the General Agreement on Tariffs and Trade ("GATT") and the General Agreement on Trade in Services ("GATS").¹⁸

Going beyond a trade agreement, CAFTA-DR led to a major adjustment of the legal system in a short time-frame through both, substantial transformations and less fundamental amendments. The most relevant and deep legal transformations were the opening of the telecommunication and insurance markets. Other amendments simply updated and modernized Costa Rica's legislation without representing a radical turnover, mainly in the areas of (i) Intellectual Property legislation; (ii) government procurement; (iii) protection to distributors and agents of foreign companies; and, (iv) financial services.

¹⁶ Latin Business Chronicle (2007a).

¹⁷ The Heritage Foundation (2007).

¹⁸ The GATT was a multilateral agreement signed in 1947 which regulating international trade of goods. According to its preamble, its purpose is the "substantial reduction of tariffs and other trade barriers and the elimination of preferences, on a reciprocal and mutually advantageous basis." GATS is a treaty of the World Trade Organization (WTO) that entered into force in January 1995. The treaty was created to extend the multilateral trading system to service sector, analogous to the GATT in merchandise trade.

In these cases the amendments would most likely have taken place anyway as they had been started before the negotiations, but CAFTA-DR accelerated their approval and implementation. Implementing CAFTA-DR required Costa Rica to approve three additional international treaties, approve or amend almost twenty laws, twenty nine regulations and approximately fifteen rules or decisions on all areas of the Treaty. While Costa Rica has complied with legal requirements of CAFTA-DR mostly within the agreed timeframe, in a few cases delays have occurred, mainly in telecommunications and insurance which may be partly attributed to the time that elapsed before the referendum.

In a series of legislative changes in the telecommunications the Government opened three market segments, modernization of ICE, established and clarified supervision, and enacted corresponding regulation. In June 2008, Congress approved *Ley General de Telecomunicaciones* that opened the segments of private network services, internet services, and mobile wireless services for competition. In addition, *Ley de Fortalecimiento y Modernización de las Entidades Publicas del Sector Telecomunicaciones* approved in August of the same year modernized ICE and its subsidiaries with the proper legislation to enable it to adapt to any changes in the legal regime of generation and delivery of electricity, telecommunications, info-communications, and other information services. The same law also established the Telecommunications Superintendence (SUTEL), responsible for regulating, implementing, monitoring, and controlling the telecommunications regulatory framework. Finally, several regulations were issued by the Regulatory Authority for Public Services of Costa Rica and through executive decrees to implement the legal changes. By end 2008, relevant legislation and regulation was in place with some delay vis-à-vis the deadlines established under CAFTA-DR.

Main legal changes in the insurance sector included the establishment of a regulatory body, and the opening of all insurance products. A major step in the opening of the insurance sector was the approval of *Ley Reguladora del Mercado de Seguros* which was approved in August 2008. This new law established the general framework for carrying out insurance activities in Costa Rica, as well as the obligation for insurers, producers, local service providers, and cross-border providers to register before or be licensed by the local regulator. Moreover, it also created the General Insurance Superintendence (SUGESE), the local authority in charge of regulating the market, supervising its participants, and protecting consumers. Through the approval of the new law Costa Rica covered the requirements under CAFTA-DR and also approved the necessary regulation to implement the new legislation.

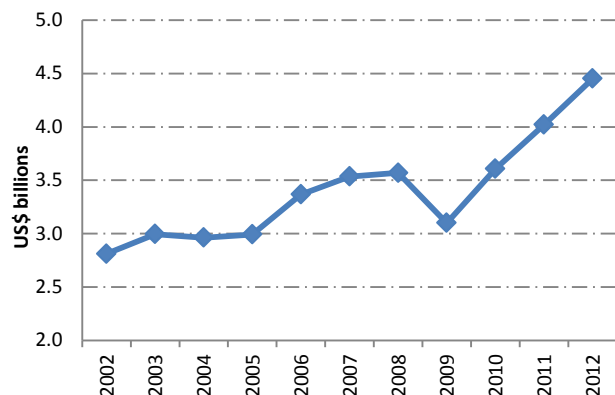
Less fundamental amendments that were relevant for Costa Rica's legal change included those in intellectual property rights and procurement. Intellectual property right legislation has been amended through, among others, the ratification of international agreements. Not all of the international agreements mentioned in CAFTA-DR have been ratified to date. The overall purpose of the changes is to render intellectual property rights protection more stringent. Procurement legislation in Costa Rica was amended to comply with obligation under CAFTA-DR regarding the integrity of procurement practices. The changes included the punishment of fraudulent procurement practices including corruption and an update of regulations to reflect specific procedures or practices and guidelines relating to procurement.

1.5 Trade and FDI patterns with CAFTA-DR

While the purpose of this section is to provide stylized facts on trade patterns over time an identification of the impact of different trade agreements on them appears impossible at this point. The reasons for the difficulty to establish a causal link are multiple. First of all, the trade agreement of interest, CAFTA-DR has only been ratified in 2009 and some of the changes have only not been applied yet as for example changes in tariffs for agricultural goods. Second, as the changes in market access under CAFTA-DR were by far not the most important aspects of the agreement, it would be difficult to disentangle the impact of the other elements. Third, the CAFTA-DR agreement was negotiated with CBI and FTZs already in place and identification would also be challenging in this context, in particular linked

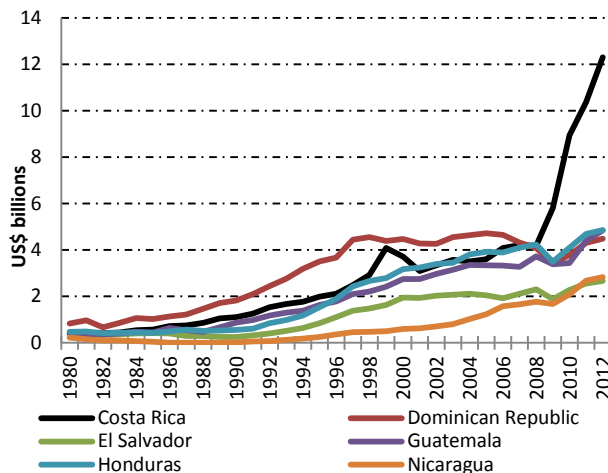
to the limited change in market access. Finally, identification of a causal link is also handicapped by the occurrence of the global financial and economic crisis which at the end of 2008 and beginning of 2009 coincided with the ratification of CAFTA-DR. Despite all these caveats there are some changes in patterns and tendencies that are worthwhile presenting. While a causal link cannot be clearly established these patterns are consistent with the importance of CAFTA-DR.

Figure 1-1 Costa Rican Exports (FOB) to the U.S. (2002-2012) in U.S. \$billions



Source: COMEX

Figure 1-2 U.S. Imports (CIF) from CAFTA-DR Countries (1980-2012) in U.S. \$billions¹⁹



Source: Directions of Trade Statistics, International Monetary Fund

Costa Rica has experienced significant shifts in its trade flows over the past 20 years with an overall increase in trade integration with the U.S. and Central America. After growing continuously since the 1980s, Costa Rica’s trade flows to the U.S. have increased significantly since the ratification of CAFTA-DR in the beginning of 2009, growing by around 50 percent by 2012 (see Figure 1-1). The import growth from the U.S. to Costa Rica has been more moderate amounting to almost 30 percent between 2008 and 2012 while the share of U.S. exports in Costa Rican GDP has actually declined by 3 percentage points of GDP over the same period according to direction of trade statistics data by the IMF. In terms of export destinations, Costa Rica has increased its share of trade exports to Central America in total exports since the 1980s while the shares of exports to the U.S. and to the rest of the World have decreased (see Annex 1-2 Stylized facts on regional trade). In terms of imports, Costa Rica has also diversified away from the U.S. with the share of U.S. imports in total imports dropping from 51 percent in 1980 to 34 percent in 2012 and the shares of the rest of the World and of Central America having increased.

Costa Rica seems to have benefited more than its Central American neighbors in terms of commerce with the U.S. since 2009. Comparing U.S. imports from different Central American countries, Costa Rica displays by far the largest increase since 2009 (Figure 1-2). According to the Direction of Trade statistics data, the value of U.S. imports from Costa Rica tripled by 2012 compared to 2008, while

¹⁹ Data of Figures 1-1 and 1-2 are not comparable because of the different treatment of the value of intellectual property rights and exports from free trade zones. The Direction of Trade Statistics data is used for Figure 1-2 as it is comparable across countries.

the increases were more moderate for other Central American countries varying between 10 and 60 percent.

The estimation of a gravity model of trade gives some indication that some of the increase in the exports of goods to the U.S. can be linked to CAFTA-DR while the result is insignificant for imports.²⁰ Following the methodology applied in Gould (1998), the current study applies the gravity model to a case of bilateral trade flows between Costa Rica and U.S. using a time series sample in order to determine the effects of CAFTA-DR on exports from Costa Rica to the U.S. and imports from the U.S. to Costa Rica. As the physical distance between Costa Rica and the U.S. does not vary over time, the measure of “distance” is not included in the underlining model for this study. Figure 1-3 and 1-4 show CAFTA’s estimated effect on bilateral trade flows between Costa Rica and the U.S.. As the dotted line in Figure 1-3 indicates, exports to the U.S. are estimated to have grown faster than they would have had there not been a free trade agreement. This result is highly significant and not negligible in size. Similarly for imports, as the dotted line in Figure 2 indicates, imports from the U.S. are estimated to have grown faster than they would have had there not been a free trade agreement. However, as the estimation output in Annex 1.2—gravity model shows this effect is insignificant. While these results indicate a link between CAFTA-DR and the increase in export flows towards the U.S., the difficulties in identifying and disentangling the economic effects of the agreement as mentioned above have to be taken into account. Annex 1.2 provides a detailed description of the estimation of the gravity model.

Figure 1-3 Costa Rica exports to U.S. (US \$millions)

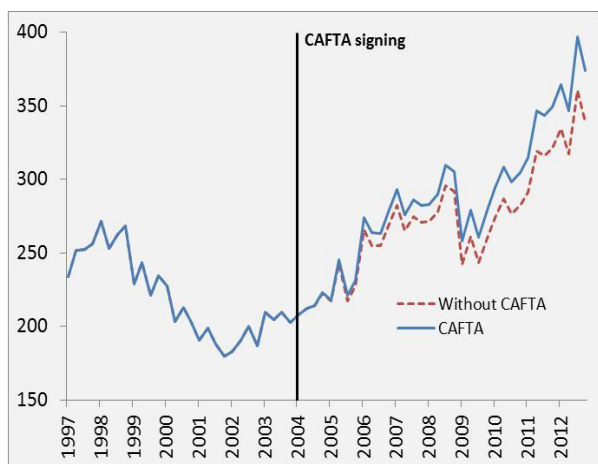
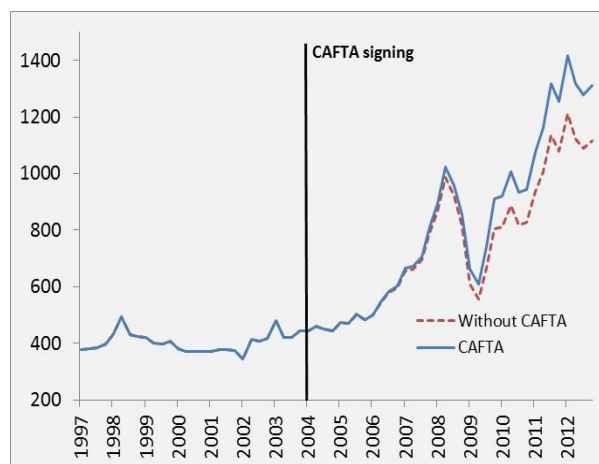


Figure 1-4 Costa Rica imports from the U.S. (US \$ millions)



Source: Central Bank of Costa Rica, Bureau of Economic Analysis, INEC, WB Staff Calculations

Costa Rica has successfully moved up the value chain with its exports of goods over the past two decades. An important shift in this context occurred at the end of the 1990s when the existing law on FTZs was amended. While prior to this change traditional exports (coffee, banana, meat and sugar) had represented around 30 percent of total exports in 1997 and non-traditional exports such as the manufacturing industry and products exported from FTZs represented 24 percent and 20 percent of total exports, respectively, the share of products from FTZs increased to 54 percent (Figure 1-5). This suggests a move towards higher value content of exports. Table 1.1 gives a similar indication for the period

²⁰ The gravity model was based on export and import data from the Central Bank of Costa Rica which excludes exports from free trade zones. Thereby the dataset is not comparable to the other data sources used in this first chapter of the report. The reason for using Central Bank data is that free trade zones house companies with foreign and US ownership. Finding an effect in a dataset excluding these zones therefore, is a stricter test on the impact of CAFTA-DR.

between 2003 and 2012 with the share of electronic products and medical instruments and appliances constantly rising.

Table 1-1 Top 5 export products 2003 through 2012 in percent of Total

| 2003 | | 2005 | | 2009 | | 2012 | |
|-------------------------|------------|--|------------|---|------------|---|------------|
| Product | % of total | Product | % of total | Product | % of total | Product | % of total |
| 1 | 24 | Electronic integrated circuits and microassemblies | 11 | Parts and accessories (other than covers, carrying cases and the like)* | 13 | Electronic integrated circuits and microassemblies | 19 |
| 2 | 10 | Parts and accessories (other than covers, carrying cases and the like)* | 9 | Electronic integrated circuits and | 10 | Instruments and appliances used in medical, surgical, dental or veterinary sciences | 9 |
| 3 | 8 | Instruments and appliances used in medical, surgical, dental or veterinary sciences | 7 | Instruments and appliances used in medical, surgical, dental or veterinary sciences | 8 | Dates, figs, pineapples, avocados | 7 |
| 4 | 3 | Bananas, including plantains, fresh or dried | 7 | Dates, figs, pineapples, avocados | 7 | Bananas, including plantains, fresh or dried | 6 |
| 5 | 3 | Dates, figs, pineapples, avocados | 5 | Bananas, including plantains, fresh or dried | 7 | Coffee, whether or not roasted | 4 |
| Top 5 in total exports | | 48 | | 39 | | 45 | |
| 6 | 3 | Coffee, whether or not roasted | 4 | Medicaments | 4 | Insulated (including enamelled or anodised) | 3 |
| 7 | 2 | Medicaments | 3 | Coffee, whether or not roasted | 3 | Food preparations | 3 |
| 8 | 2 | Food preparations | 2 | Orthopaedic appliances | 3 | Orthopaedic appliances | 2 |
| 9 | 2 | Men's or boys' suits and ensembles | 2 | Food preparations | 3 | Palm oil and its fractions | 2 |
| 10 | 1 | Microphones and stands | 2 | Fruit juices (including grape must) | 2 | New pneumatic tyres, of rubber. | 1 |
| Top 10 in total exports | | 59 | | 52 | | 60 | |
| 11 | 1 | New pneumatic tyres, of rubber. | 1 | New pneumatic tyres, of rubber. | 1 | Toilet paper and similar paper | 1 |
| 12 | 1 | Women's or girls' slippers and petticoats | 1 | Melons (including watermelons) | 1 | Medicaments | 1 |
| 13 | 1 | Parts suitable for use solely or principally with the apparatus of heading 85.35, 85.36 or 85.37. ** | 1 | Toilet paper and similar paper | 1 | Electrical apparatus for switching | 1 |
| 14 | 1 | Men's or boys' singlets | 1 | Palm oil and its fractions | 1 | Ferrous waste and scrap | 1 |
| 15 | 1 | Toilet paper and similar paper | 1 | Insulated (including enamelled or anodised) | 1 | Fruit juices (including grape must) | 1 |
| 16 | 1 | Melons (including watermelons) | 1 | Electrical apparatus for switching | 1 | Articles for the conveyance or pack | 1 |
| 17 | 1 | Insulated (including enamelled or anodised) | 1 | Insecticides, rodenticides, fungici | 1 | Men's or boys' singlets | 1 |
| 18 | 1 | Articles for the conveyance or packing of goods, of plastics | 1 | Other live plants | 1 | Melons (including watermelons) | 1 |
| 19 | 1 | Electrical apparatus for switching | 1 | Men's or boys' singlets | 1 | Insecticides, rodenticides, fungici | 1 |
| 20 | 1 | Fruit juices (including grape must) | 1 | Manioc, arrowroot, salep, Jerusalem | 1 | Manioc, arrowroot, salep, Jerusalem | 1 |
| Top 20 in total exports | | 69 | | 64 | | 71 | |

*Note: * Refers to parts and accessories that are suitable for use solely or principally with specific machines*

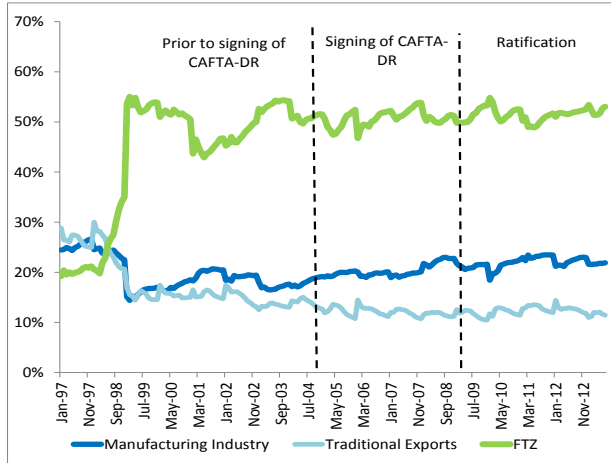
*** Electrical apparatus for switching or protecting electrical circuits, or for making connections to or in electrical circuits in addition to boards, panels, consoles, desks, cabinets and other base.*

Source: WITS-UN COMTRADE

At the same time the share of top 20 export products has slightly decreased and the variety of products to the US has increased since 2003. Table 1.1 suggests that the share of the top 5, top 10, and top 20 export products in total exports have remained fairly stable since 2003 with slightly decreasing trend. An index of export concentration as measured by the share of agricultural products in total Costa Rican exports relative to the World average of the share of agricultural products in total exports indicates a drop in the concentration of Costa Rican exports over the longer-term with the most important decrease

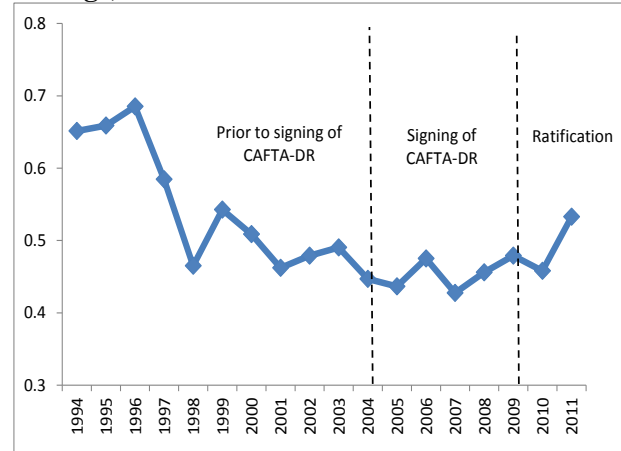
in concentration at the end of the 1990s. Yet, the data shows a slight increase since 2009 (Figure 1-6).²¹ Moreover, the number of export products to the US has increased since 2003.

Figure 1-5 Share of total export of goods, FOB (%)



Source: Central Bank of Costa Rica

Figure 1-6 Costa Rica export concentration index of agricultural goods (relative to World average)

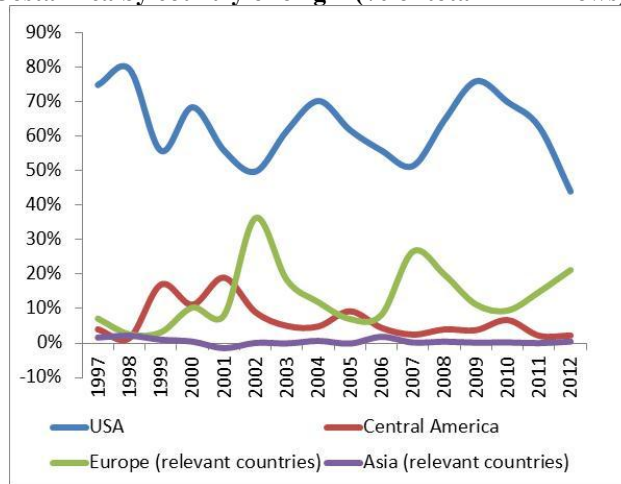


Source: WITS-UN COMTRADE

In terms of FDI, Costa Rica has been very successful and the composition of the flows has changed considerably since CAFTA-DR. Since the year 2000, FDI to Costa Rica has varied between 2 and 7 percent of GDP. In 2003, the year prior to the signing of CAFTA-DR, FDI stood at US\$575 million (3.3 percent of GDP). There have been slight increases prior to the ratification of the FTA in 2009 and FDI as percent of GDP reached 5.1 percent of GDP in 2012. Costa Rica FDI inflows have historically come to a large extent from the U.S.. In 2000, these FDI inflows represented 75 percent of total FDI inflows. The U.S. share of FDI inflows has remained high and ratification of CAFTA-DR but has varied (Figure 1-11). An interesting pattern is the shift in composition of FDI since the ratification of CAFTA-DR. Before 2004, FDI in the service sector only represented 7 percent of total FDI Inflows. In 2009 this increased to 18 percent of total FDI and then further to 40 percent in 2012 after the ratification and the liberalization of telecom and insurance sectors (Figure 1-12). Chapter 2 will provide an in depth analysis of FDI flows in high-tech.

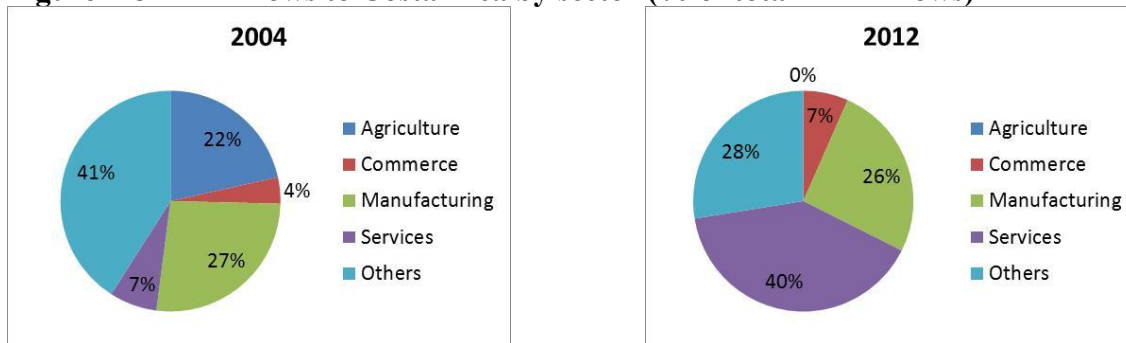
²¹ It is defined as $DX_i = (\sum |h_{ji} - h_j|) / 2$, where h_{ji} is the share of commodity j in the total exports of country i and h_j is the share of the commodity j in world exports. The lower this index the more diversified a country's exports

Figure 1-7 FDI inflows to Costa Rica by country of origin (% of total FDI inflows)



Source: Banco Central de Costa Rica

Figure 1-8 FDI inflows to Costa Rica by sector (% of total FDI inflows)



Source: Banco Central de Costa Rica

Chapter 2. CAFTA-DR and High-tech Sector: FDI and Export Performance²²

2.1 Introduction

There is broad consensus that free trade agreements (FTAs) promote foreign direct investment (FDI) and increase exports of the member countries. They do so by lowering tariffs, expanding market size, reallocating resources efficiently, increasing economies of scale and promoting technology diffusion. Most FTAs have provisions on investment to reduce risk of expropriation and to ensure against the discrimination of foreign firms, further stimulating FDI inflows. FTAs also help governments lock in reforms, promoting stability and reassuring foreign investors about the profitability of their long-term investments. Moreover, given that most multinational companies (MNCs) operate in global value chains (GVCs), they are anticipated to increase the exports of the host countries and incorporate local suppliers in GVCs, promoting their know-how and technological progress.

Under Costa Rica's strategy of strengthening its FDI and promoting its export-based development strategy, CAFTA-DR is of large significance for Costa Rica's long term development strategy. While the country has progressed significantly in its quest for diversifying the country's output and exports away from traditional goods to manufacturing products, Costa Rica must further increase the high technology content of its manufacturing production and exports by attracting the type of FDI in the high end of the manufacturing sector and by increasing the linkages of MNCs to the local producers. Given that the majority of the MNCs in the high-tech sector are from the USA and that Costa Rica has strong historical links to the USA, coupled with its attractive location and small size, CAFTA-DR can help the country achieve its goals.

This chapter provides an analysis of the potential impact of CAFTA-DR on FDI and export performance of high-tech sectors in Costa Rica. The high-tech sectors included are electronics, medical instruments and business service sectors. The analysis uses secondary data as well as primary data collected through two different surveys from the firms in the high-tech sector: online survey of 61 firms and in-depth interviews of 11 firms. Furthermore, the analysis is conducted in light of key historical developments shaping the high tech sector (*e.g.*, the launch of the FTZs in 1981; arrival of Intel in 1997; ratification of CAFTA-DR in August 2004, followed by a referendum for its approval in 2007; and full commitment to CAFTA-DR in January 2009) and the fact that CAFTA-DR came into effect in the midst of the 2008/09 global financial crisis. During that period most economies in the world suffered significant losses, which impacted the way in which CAFTA-DR had an effect on the Costa Rican economy. Given that CAFTA-DR came into force just four years ago, the analysis can only provide insights into the short-term impact of CAFTA-DR on Costa Rica's high-tech sector.

Our findings provide some interesting insights into these relationships, which are summarized as follows:

- In spite of the adverse effects of the global financial crisis on world economies, the number of total MNCs and the total amount of FDI inflows to Costa Rica increased significantly during the

²² This chapter was written by Hulya Ulku, Senior Private Sector Specialist (FGIDB).

periods following the ratification of CAFTA-DR in 2004 and its implementation in 2009. GDP share of total FDI inflows to Costa Rica also increased substantially after 2004 until the onset of the global financial crisis, during which it dropped significantly, though the decline was still smaller than the regional average, most likely due to CAFTA-DR.

- The FDI share of the electronics has been stagnating since 2004, while the share of medical devices and business services has been on an impressive upward path, especially after CAFTA-DR came into force in 2009. The rise in the FDI shares of the medical devices appears to be resulting from increased interest in the sector by American companies following CAFTA-DR, while the rise in the FDI share of the business services sector appears to be largely stemming from the liberalization of the telecommunication sector due to CAFTA-DR.
- Although the amount of FDI inflows to Costa Rica from almost all source countries increased after CAFTA-DR, with the largest increase in FDI inflows from the United States, only the United States, Latin American region, and Mexico have increased their FDI shares following the agreement.
- Total export share of GDP has increased steadily throughout the 1990s and most of the 2000s, with the largest increases taking place after the arrival of Intel in 1997 and signing of CAFTA-DR in 2004, before heading on a downward path since 2007. However, these aggregate figures mask some interesting changes in the composition of the exports of the high-tech industries. Although the export share of the electronics sector has remained largely the same throughout the 2000s, the export share of medical devices has been increasing steadily since 2007 and has not been significantly affected by the financial crisis, most likely due to the arrival of new American companies in the industry after CAFTA-DR. In addition, the IT-enabled sector had the largest boom in its export share during the second half of 2000s, with the biggest increase taking place after CAFTA-DR came into force.
- The analysis drawing on the primary data collected through short online surveys and in-person structured interviews provide evidence that CAFTA-DR was an important factor in the investment decisions of a significant number of firms participating in the surveys. According to the data, one of the most important benefits of CAFTA-DR for foreign investors was to reinforce the governments' commitment to liberal trade and FDI-friendly policies and to strengthen the legal framework on the rights of foreign investors. Other important outcomes that were noted were an increase in the competitiveness of the Costa Rican economy through several provisions of CAFTA-DR, including the liberalization of the telecommunication and insurance sectors, which increased the FDI and exports of the high-tech sector.
- Given that CAFTA-DR is still new and that it came into force in the middle of the global financial crisis, many of its anticipated effects will take longer to be realized. Having already achieved most of its early- to mid-developmental goals, Costa Rica's next challenge is to attract FDI at the high-end of the production chain in order to increase the value-added content of the production taking place in Costa Rica, and to establish linkages between foreign investors and local suppliers in order to increase the absorptive capacity and innovation capability of the country.
- In order for Costa Rica not to fall into the middle-income country trap, it must seek to transform its economy from being a recipient of innovation to the producer of it. One way of achieving this, as the recent experiences of the Asian Tigers have shown, is to maintain FDI and export-oriented policies on the one hand - as Costa Rica has been successfully implementing during the last three decades - and on the other hand to strengthen the ability of the country to innovate through increased investment in education and infrastructure and through greater exposure to advance technologies.

This chapter is organized as follows. Section 2.2 provides a summary of Costa Rica's experience with FTAs and the potential impact of CAFTA-DR on FDI and exports in the high-tech sector. Section 2.3 and

2.4 analyze the trends in FDI and exports in high tech sector of Costa Rica before and after CAFTA-DR using secondary sources. Section 2.5 discusses the perspective of the MNCs about the effects of CAFTA-DR on their performance using an online survey of high-tech firms in the FTZs, while section 2.6 analyzes the effect of CAFTA-DR at the firm level based on structural interviews that were conducted with a selected sample of firms.

2.2 Costa Rica's Experience with FTAs and Their Effect on FDI and Exports in High-tech Sector

Costa Rica started a trade liberalization development strategy in the mid-1980s. The country unilaterally reduced import tariffs, decreasing the average import tariff from 46.3 percent in 1982 to 16.8 percent in 1989 (Monge-Ariño, 2011). The establishment of FTZs in 1981 and tax incentives to attract FDI rapidly transformed Costa Rica into a high-tech manufacturing exporter (Trejos, 2008). Intel's decision to open an assembly and test plant in Costa Rica in 1997 paved the way for many other high-tech companies to invest in the country with FDI in targeted knowledge based sectors reaching 65 percent in the next 15 years (Rodríguez-Clare, 2001; OECD, 2012). The country signed "contemporary" trade agreements with Mexico in 1995; Chile, Canada and Dominican Republic in 2002; States of the Caribbean Community (Trinidad and Tobago, Guyana and Barbados) between 2005 and 2006; and Panama in 2008 (Monge-Ariño, 2011). These agreements helped Costa Rica diversify its exports and increase the share of manufactured products in total exports reducing its dependence on primary products (Ferreira and Harrison, 2012).

With CAFTA-DR, Costa Rica carried out changes to its legal framework, consolidating further gains from trade. Costa Rica signed the CAFTA-DR trade agreement in 2004 and it ratified the agreement after a national referendum in 2007, with 51.6 percent of voters approving CAFTA-DR. The treaty came into effect in January 2009. The United States has traditionally been Costa Rica's largest trade partner, with 45 percent of Costa Rican exports going to United States and 45 percent of imports coming from United States, while 16 percent of exports going to Central America and only five percent imports coming from other CAFTA-DR members, before the agreement were implemented (Hicks *et al.*, 2013). Besides eliminating tariffs and reducing non-tariff barriers between member countries, CAFTA-DR also brought serious changes to the legal framework of member countries, ensuring a secure and predictable environment for U.S. investors in Central America and Dominican Republic with a commitment to develop an appellate mechanism for investor-state disputes (Frutos *et al.*, 2011). These modifications to the legal framework provisionally increased the attractiveness of member countries to foreign investors, aiding them to receive more FDI. Based on the U.S. legal principles, the agreement provides protection for all forms of investment, including enterprises, debt, concessions, contracts and intellectual property (Francois *et al.*, 2007). The e-Commerce chapter of CAFTA-DR introduces the digital product concept and takes measures to block possible future tariffs on these products (Villalobos and Monge-Gonzalez, 2010). CAFTA-DR also meets the labor objectives set out by the U.S. Congress and grants workers improved access to procedures that protect their rights (Francois *et al.*, 2007).

Together with trade liberalization, Costa Rica also pursued policies to attract FDI and several studies have looked into the potential impact of CAFTA-DR on FDI inflows. Frutos *et al.*, (2011) find that CAFTA-DR will positively affect FDI inflows in Costa Rica, through its impact on export tariffs and protection of investors. They conclude that as a result of continuing FDI inflows manufacturing sector will develop further. In another study, Francois *et al.* (2007) demonstrate that the increase in FDI and capital stock would be the biggest welfare improving mechanism of CAFTA-DR. However, they also point out that an increase in FDI inflows does not necessarily foster economic development without positive knowledge spillovers.

CAFTA-DR is also expected to diversify Costa Rican exports participating in GVCs through FDI. Costa Rica contributes to at least five major high-tech GVCs: electronics, medical devices, automotive,

aeronautic/aerospace and film/broadcasting devices (Monge-Ariño, 2011). These GVCs benefit from economies of agglomeration, attracting more investment from other firms and thus further strengthening Costa Rica's place in GVCs. In electronics, there are 24 firms primarily engaged in electronics industry, of which only six are producing final products (Gereffi *et al.*, 2013)²³. Medical devices industry consists mostly of the U.S. origin firms with the most significant growth occurring after the implementation of CAFTA-DR and the growth in the sector has been driven by export-oriented strategies.²⁴ The nascent industry of aerospace in Costa Rica, with no lead firms, relatively small labor force and limited access to finance and technological expertise, struggles to expand (Gereffi *et al.*, 2013).

Given the fact that the USA has traditionally been the major investor and trading partner of Costa Rica, it is easy to assume CAFTA-DR to have serious and likely positive effects on both the FDI inflows and high-tech exports. However, Ferreira and Harrison (2012) challenge the view that government backed export diversification based on FDI is the main driver of long-term economic growth. They show that neither vertical nor horizontal diversification is associated with economic growth in Costa Rica. The main challenge to development is not only to increase FDI and trade volume, but also to ensure backward linkages from knowledge-based industries to local economy to generate positive spillovers and enter a virtuous circle (i.e. Giuliani, 2008).

2.3 CAFTA-DR and FDI in High-Tech Sector: Evidence from Secondary Data

An analysis of the linkages between CAFTA-DR and FDI inflows should consider the key developments related to high tech sector. First, Costa Rica's pursuit of promoting its high-tech sector through FDI started in the early 1980s through FTZs. FTZs emerged in Costa Rica with the declaration of Law 6695 of December 10, 1981, the Export Processing Zones and Industrial Parks Law, to promote the export of non-traditional products and foster productive investment by attracting foreign direct investment (Monge-Gonzales *et al.*, 2005). Second, the turning point for the high-tech sector of Costa Rica was when Intel moved part of its production to Costa Rica in 1997.²⁵ Intel played a vital role in the development of Costa Rica's high-tech sector through three channels: a) it had a direct impact on employment, investment, trade, output and the development of technology cluster; b) it served as a catalyst for repositioning Costa Rica as an attractive investment location, through its impact on the country's technical education, incentives laws and regulations, and infrastructure (MIGA, 2006); and c) it increased the confidence of foreign investors through demonstration effect - other investors were more willing to move to Costa Rica after the move of Intel. Finally, the analysis must take into account the recent global financial crisis coinciding with the CAFTA-DR.

²³ In 2011, electronics exports worth \$2.14 billion represented 20.4 percent of the country's total exports. These exports are highly concentrated on one product, which is electronic integrated circuits, processors and controllers, representing 86.9 percent of electronics exports with the top export destination being US (31.9 percent), followed by Hong Kong (23.5 percent) and Netherlands (19.2 percent).

²⁴ While firms first entered Costa Rica for low-cost manufacturing, they rapidly expanded their operations and upgraded their products with total exports amounting up to \$1.3 billion in 2011.

²⁵ Numerous studies examined why Intel decided to invest in Costa Rica and not in other countries, including Brazil, Mexico and Chile. They point out that the location of the country, its educated labor force and political stability played a key role in Intel's decision. Committed efforts of the government of Costa Rica, led by COMEX, in collaboration with CINDE to persuade Intel of the advantages of investing in Costa Rica has been widely cited as the critical factor for Intel's decision (Lorraine et al 2000).

Figure 2-1 Net FDI inflows (% of GDP)

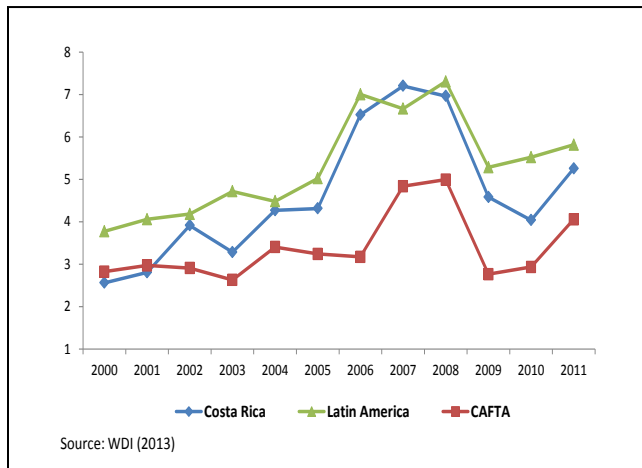
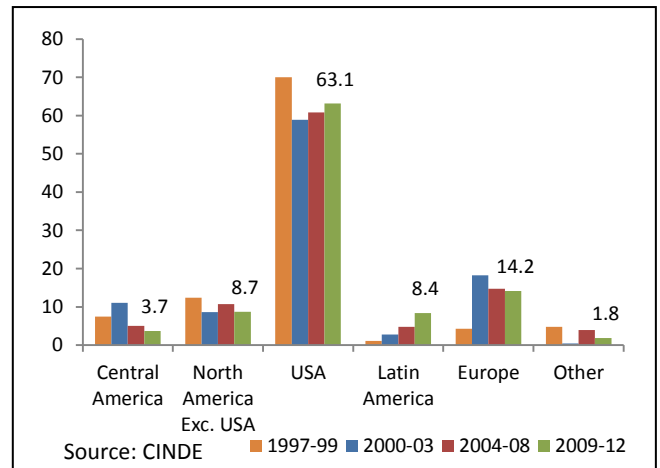


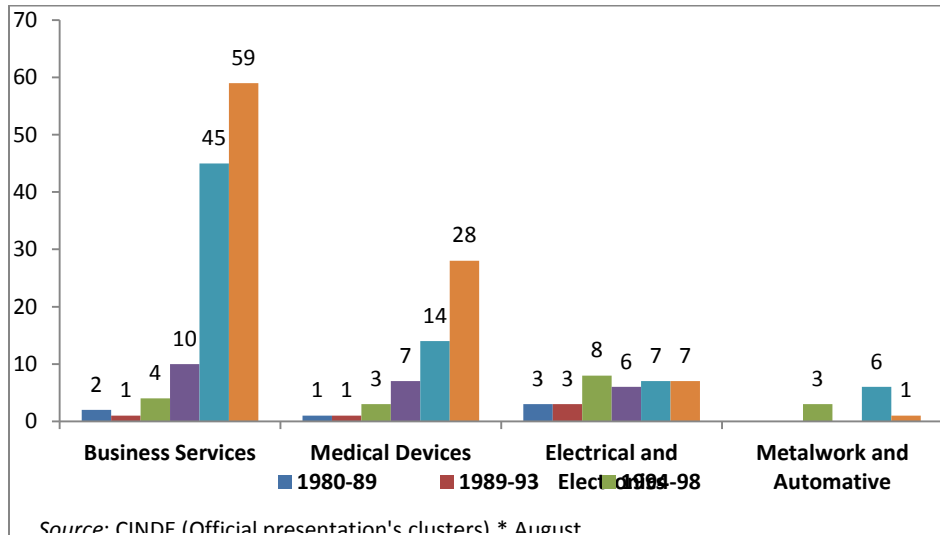
Figure 2-2 FDI inflows by Country of Origin (% of FDI inflows)



After the signing of CAFTA-DR, FDI inflows increased remarkably with a surge from the USA after 2004. Since the ratification of CAFTA-DR coincided with the financial crisis, we observe a sharp decrease in the FDI inflows of the country in 2009, paralleled with the decline in the FDI inflows of the region and CAFTA-DR countries, before the start of a quick recovery in 2011 (see Figure 2-1). One of the anticipated effects of FTAs is to increase the FDI inflows from both member and non-member countries by eliminating the barriers to trade, decreasing the cost of production, expanding the market and increasing the technology diffusion across the member countries. As shown in Figure 2-2, there is a big surge in the share of FDI flows from the USA, Latin America and Europe throughout the two periods of CAFTA-DR, those starting with 2004 and 2009, while in the case of Mexico there is a big increase after CAFTA-DR came into effect in 2009. According to CINDE, increase in Mexico’s FDI after CAFTA-DR was a result of the investment of America Movil (Claro) that started operating in Costa Rica in 2011 after the liberalization of telecommunication industry with CAFTA-DR. The increase in the FDI of Latin America region after 2009 was entirely as a result of the investments of Colombian companies in Costa Rica. Specifically, Nutresa, a food and beverage company, acquired two Costa Rican companies, Galletas Pozuelo and Pops, with a total investment of US\$110 million in 2011 and 2012; Grupo Aval and Banco Davivienda started operations in Costa Rica with \$70 million investment and Megasuper supermarket expanded operations in 2011 with US\$30 million new investment. The increases in the FDI flows of Europe during 2004-08 was due to a large investment by Belgium, and the increases after 2009 were a result of the investment of two companies from a Spanish telecommunication company Telefonica in 2011, and an Italian power company En el S p.A investment in 2012.

There were also changes in the distribution of MNCs across the high-tech industries during the last decades (Figure 2-3). Throughout the 1980s only six MNCs operated in the high-tech sector, which remained about the same until the arrival of Intel in 1997, during which period the number of MNCs increased to 18. The period 2004-08, corresponding to the signing-to-enter in force of CAFTA-DR, has seen the largest numbers of MNCs with more than a twofold increase over the previous period. Starting from 1999, numbers of MNCs stagnated in the electronics and increased in the medical devices and business services. However, the largest increase in the number of MNCs in the medical devices and business services occurred during 2004-2008, and continued to increase after 2009 when CAFTA came into effect. As of August 2013, there are 44 MNCs in the electronics, 54 in the medical devices, and 121 in the business services.

Figure 2-3 Number of MNCs in high-tech sectors



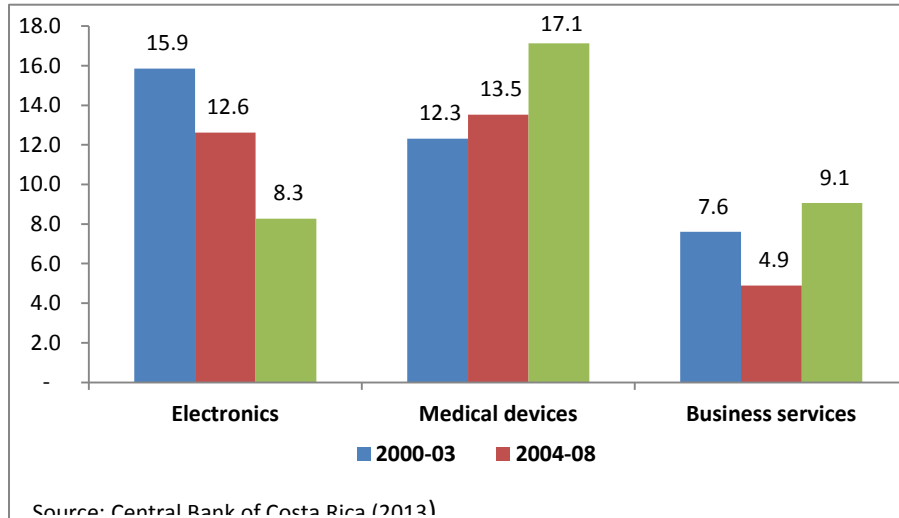
Trends in FDI flows also show a shift towards medical devices and business service and a decrease in those of electronics after the signing of CAFTA-DR. As shown in Figure 2-4, the average share of FDI in the medical devices sector increased to 17.1 percent of net FDI flows during 2009-12, from 12.3 percent in 2000-02. During the same period the share of electronics decreased from 15.9 percent to 8.3 percent (Figure 2-3). The largest growth in the FDI flows to medical devices industry, which is dominated by the USA companies, took place right after the implementation of CAFTA-DR, which, in addition to the reduction or elimination of tariffs, put in place a provision protecting USA investors and establishing a secure and predictable framework for them.²⁶ The increase in the FDI inflows to the business services industry, including IT-enabled sector, after 2009 can partly be explained by the liberalization of the telecommunication sector due to CAFTA-DR. Since then Costa Rica has progressively opened telecommunication sector, including private network services, Internet services, and mobile wireless services, which are now open to competition. Most of the foreign investment in the business services sector after 2009 was made by the USA companies in shared services including P&G, HP, IBM, Sykes, and Wal-Mart. In sum, these trends suggest that CAFTA-DR had a direct impact on the FDI inflows to medical devices and business service industries.

2.4 CAFTA-DR and Exports in High-Tech Sector: Evidence from Secondary Data

The main goal of the FDI and export led development model of the government of Costa Rica starting in 1980s was to diversify exports away from traditional products to high value added manufacturing products. Successful implementation of these policies together with the educated labor force, political stability and pro-investment public policies enabled the country to become an important manufacturing and business service location for MNCs and transformed the country's export composition. The share of manufacturing goods exports in total exports increased substantially during 1992-2000 due to mainly the exports of the MNCs in the FTZs.

²⁶ According to CINDE, the largest increase in the FDI inflows to medical devices industry in 2010 was due to the investment of the USA companies in Costa Rica, including St. Jude Medical, Sterigenics, Tegra Medical, NDC, and others.

Figure 2-4 Average FDI inflows in high- tech sector (% of total FDI flows)



Given the close linkages of the high-tech sector of Costa Rica to MNCs, the majority of which are from the USA, CAFTA-DR is expected to contribute significantly to the exports of the sector by attracting new MNCs and expanding the investment of the existing MNCs. In addition, CAFTA-DR, by strengthening the intellectual property rights and the legal framework protecting foreign investors' rights, is expected to increase the FDI at the higher end of the manufacturing sector with larger content of technology. **This section analyzes these anticipated impacts of CAFTA-DR using secondary data from WDI, CINDE and Central Bank of Costa Rica.**

Import and export shares of the country increased significantly up until the onset of the global financial crisis in 2008. The first peak in both series is observed in 1999 after the arrival of Intel and the second one in 2006, two year after CAFTA-DR was signed (see Figure 2-5). The losses due to financial crisis were so severe that in 2010 both the export and import shares dropped to their lowest levels since 1990, before starting to improve slowly in 2011.

Figure 2-5 Costa Rica's Exports and imports of goods and services (% of GDP)

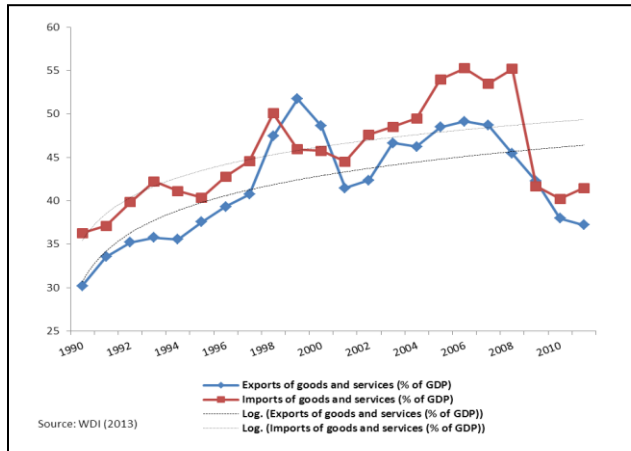
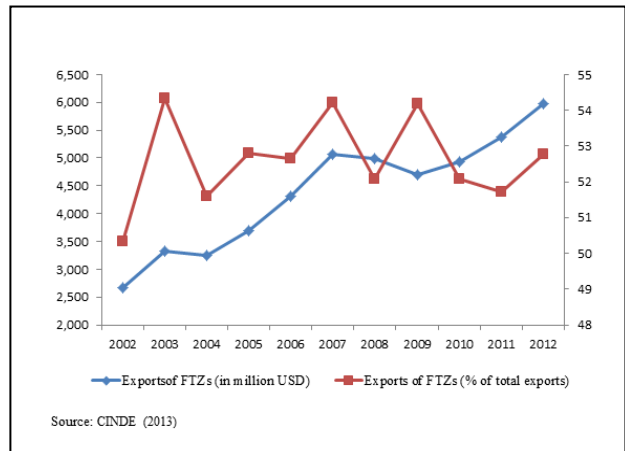


Figure 2-6 Exports of Costa Rica's FTZs



Although we observe a steady increase in the level of the FTZs exports, their share in total exports fluctuated annually around 53 percent. As shown in Figure 2-6, the export levels of FTZs increased following both the signing and implementation of CAFTA-DR in 2004 and 2009, respectively. Although the export share of FTZs also increased after the signing of CAFTA-DR, there is no increase following its implementation, most likely due to the interference of global financial crisis.

Total export shares of the high-tech and low-tech sectors are shown in Figure 2-7. As expected, export share of low-tech-exports have been declining gradually since 2004, while the export share of high-tech sector has remained stable since the big hike during 2004-2007 – it increased from 37 percent in 2004 to 47 percent in 2007 and stayed stable until the global financial crisis.

Using the industry level data from CINDE, the sectoral distribution of the exports of Costa Rica to the USA shows that there has been a steady decline in the export share of the textile sector over the course of 2000s. The sharpest decline taking place during 2005-08, from 7.7 percent to 2.8 percent (see Figure 2-8). Agricultural exports have remained stable around 25 percent, owing to the country's internationally renowned agricultural products, innovative diversification of the sector, and the exception of some products from liberalization.

Regarding the exports of the key high-tech industries to the USA, we see a big surge in the exports of the medical instruments during 2007-12, with an increase from 15 percent to nearly 25 percent (Figure 2-8). In contrast, electronics sector sees a large decline in its export share to the USA from 2003 to 2005, falling from 30 percent to nearly 20 percent, after which it stays stable around 22 percent. These figures have similar patterns with the figures shown in the previous section on the FDI inflows to the medical instruments and electronics industries, indicating close linkages between FDI and exports of high-tech industry, as expected.

Figure 2-7 Exports of high-tech and low tech sectors of Costa Rica (% of total exports)

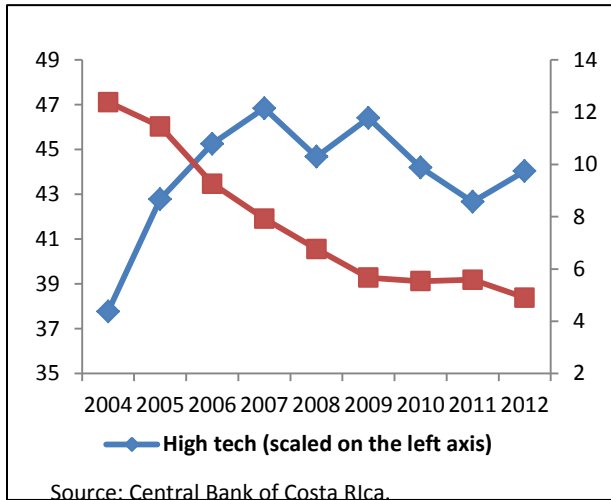
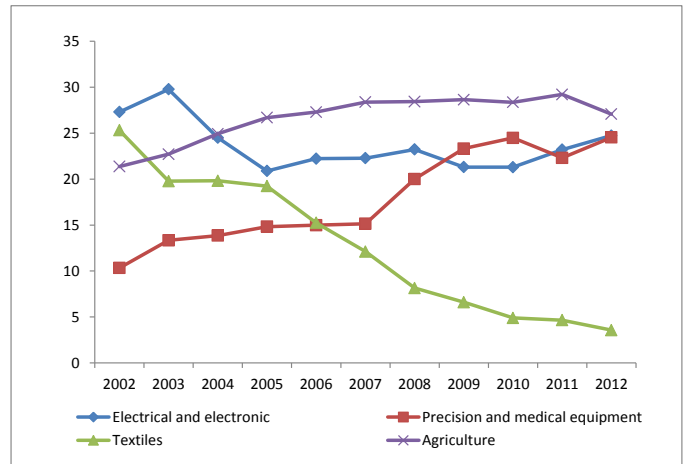
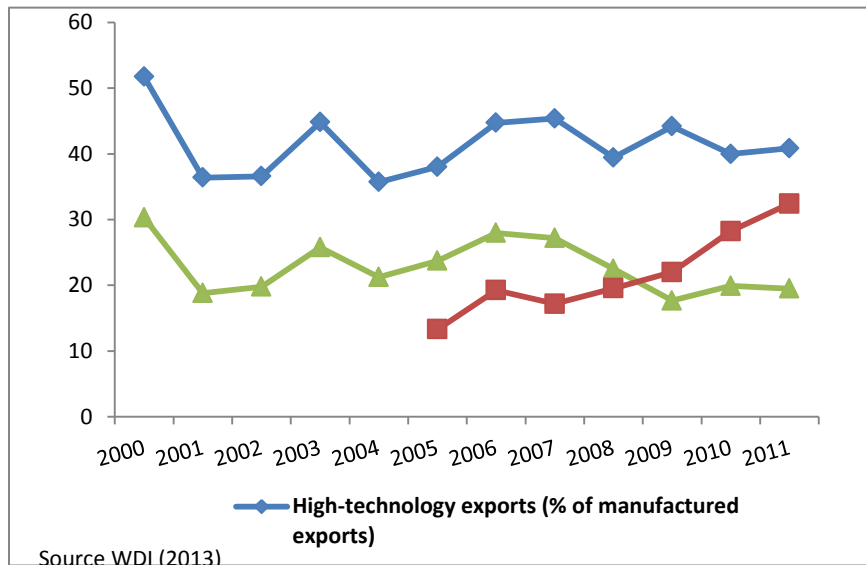


Figure 2-8 Exports of Costa Rica to the USA by sector (% of total exports to the USA)



As indicated earlier, information and communication technology (ICT) services have become one the dominant high-tech sectors in Costa Rica during the last decade. Consequently, as seen from Figure 2-9, its export shares have had an outstanding increase from about 12 percent in 2005 to about 32 percent in 2011, with a big bulk of this increase taking place after CAFTA-DR’s implementation in 2009. Most of these changes were due to the liberalization of telecommunication sector that decreased the price of telecommunication including broadband and increased its quality substantially.

Figure 2-9 Exports of high-tech sector in Costa Rica



2.5 CAFTA-DR, FDI and MNCs Performance in High-Tech Sector: Findings from Online Surveys

To complement the analysis from previous section, this section provides some insights on the potential impact of CAFTA-DR on FDI inflows in high-tech firms located in the FTZs. Using a survey of 61 firms in the software (see Box 2-1), business services, and high-tech manufacturing firms, we found that 28 percent of surveyed firms made their first investment after the ratification of CAFTA-DR in 2009 and that all but two firms had made further investments after 2009 (Figure 2-10 and Table 2-1). The fact that almost a third of the total firms in the sample made their first investment after CAFTA-DR's implementation and that almost all firms in the sample expanded their investment after CAFTA-DR, suggest that, in spite of the short time that has passed since CAFTA-DR was ratified and the ongoing global recession, CAFTA-DR might have still significantly impacted on the FDI flows in high-tech sector in Costa Rica.

Box 2-1 Survey of MNCs in high-tech sectors

To gain insight on the effects on CAFTA-DR on investments, production, exports, imports, and costs, we carried out a survey of firms in the high-tech sector. The questionnaire was distributed to 200 firms operating in the FTZs in the high-tech sector and was administrated online by CINDE during June – August 2013. Out of 200 firms contacted, only 62 (or 31 percent) responded to the questionnaire, but one firm was dropped as it was not in the high-tech sector. The response rate is similar to that of other enterprise surveys in Costa Rica. Although it is difficult to assess the representativeness of the sample, its distribution across sectors is similar to the distribution of firms and FDI across the high-tech sector, suggesting that the firms in the sample can be, to a large extent, considered as representative of the high tech industry.

Figure 2-10 Number of Surveyed Firms by Year of First Investment

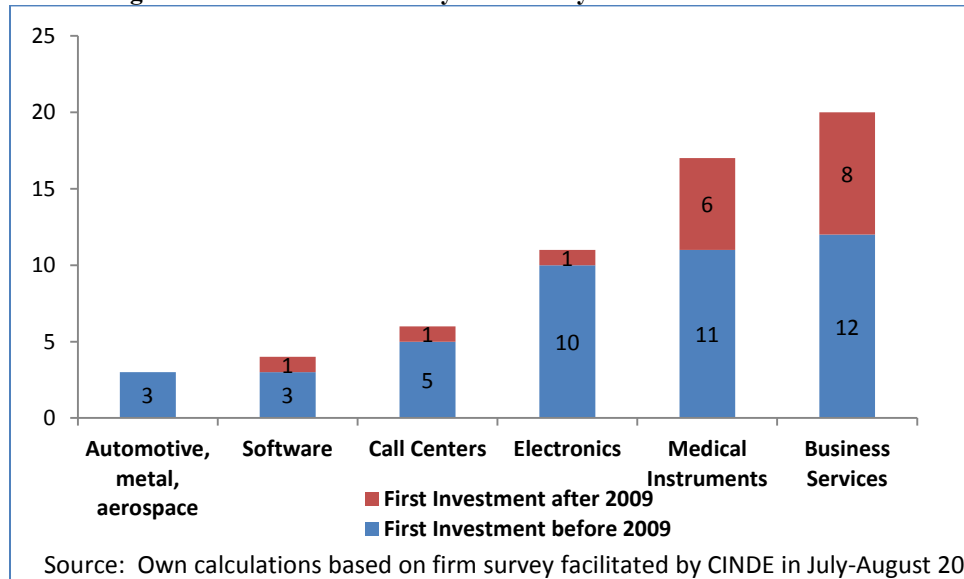


Table 2-1 Survey of MNCs in high-tech sectors

| <i>Sector</i> | <i>Number of firms</i> | <i>Year of investment</i> |
|-------------------|------------------------|---|
| Automotive | 1 | 08 |
| Metal | 1 | 85 |
| Aerospace | 2 | 05,10 |
| Micro-processors | 2 | 96,97 |
| Software | 4 | 04,05,06,12 |
| Call center | 6 | 01,02,04,07,08,09 |
| Electronics | 9 | 90,95,96,97,00,01,06,07,10 |
| Medical devices | 17 | 87,94,95,99,00,03,04(2),05,06,08,10(2),11,12(3) |
| Business services | 19 | 95,99-2,01,04(3),06,07(2),08(2),09,10,11(2),12(3) |
| Total | 61 | |

Source: Author's data collected by CINDE during July-August 2013. Note: Numbers in parenthesis show the number of firms investing in the same year. The micro-processors industry is combined with electronics.

The majority of the surveyed firms listed the availability of skilled labor among their top three reasons for investing in Costa Rica, only second to FTZs. It is not surprising that skilled labor and FTZs were among the most cited reasons for all companies in our sample, which have been widely covered in the literature as being one of the strengths of the Costa Rican economy (Figure 2-11). The third most cited reason for investing in Costa Rica was cost for high-tech manufacturing firms while it was location for business services and software industries. Interestingly, surveyed firms in high-tech manufacturing cited CAFTA-DR before location and institutional environment as a reason for investing in Costa Rica, while firms in business services cited CAFTA-DR above institutions.

Although a quarter of surveyed firms indicated that CAFTA-DR did not have an effect in their operations, the rest reported positive changes in their output, investment, exports or other economic performance indicators. As shown in Table 2-2, about 30 percent of surveyed firms stated that CAFTA-DR increased their exports, followed by 28 percent indicated that it decreased their cost. Only 8 percent responded that it led to increased output.

Figure 2-11 Top 3 reasons for last investment in Costa Rica (number of surveyed firms)

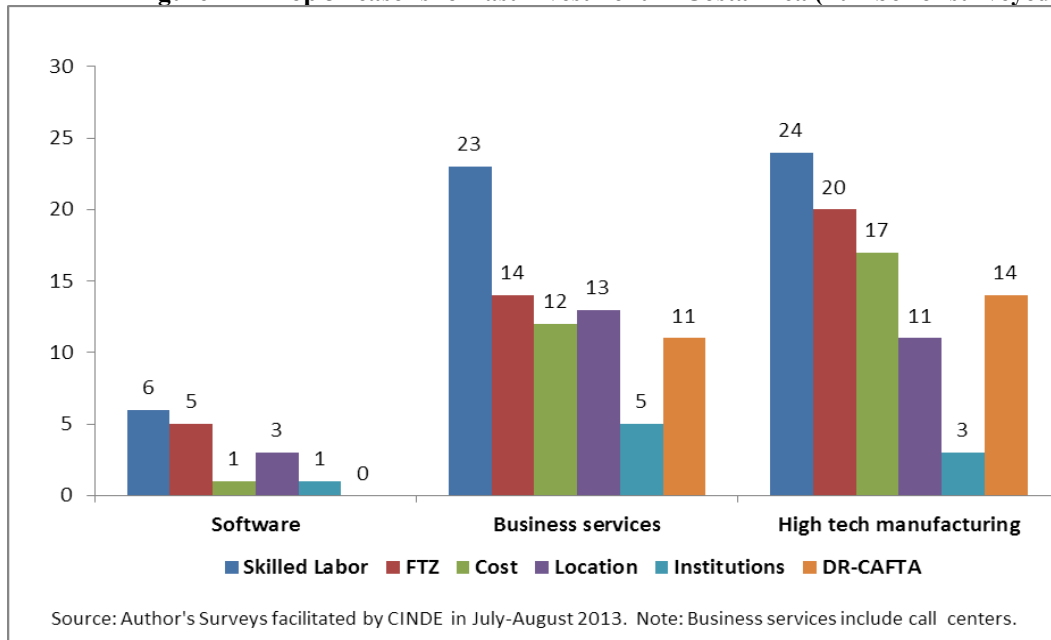


Table 2-2 Number and percentages of the answers of the firms to the question of how CAFTA-DR impacted their performance

| | <i>No effect</i> | <i>Decreased cost</i> | <i>Increased output</i> | <i>Increased exports</i> | <i>Other reasons</i> | <i>Total answers</i> |
|-------------------------------|------------------|-----------------------|-------------------------|--------------------------|----------------------|----------------------|
| Number of answers | | | | | | |
| Software | 2 | 3 | .. | 1 | .. | 6 |
| Business services | 8 | 9 | 2 | 4 | 4 | 27 |
| High-tech | 6 | 5 | 3 | 13 | 5 | 32 |
| Total | 16 | 17 | 5 | 18 | 9 | 65 |
| Percentages of answers | | | | | | |
| Software | 33.3 | 50.0 | .. | 16.7 | .. | 100 |
| Business services | 29.6 | 33.3 | 7.4 | 14.8 | 14.8 | 100 |
| High-tech | 18.8 | 15.6 | 9.4 | 40.6 | 15.6 | 100 |
| Total | 24.6 | 26.2 | 7.7 | 27.7 | 13.8 | 100 |

Source: Author's Surveys facilitated by CINDE in July-August 2013.

Note: Business services include call centers.

The reported effect of CAFTA-DR varied across sectors. While 41 percent of the high-tech firms indicated that CAFTA-DR increased their exports (which was the most frequently chosen answer in this sector, followed by decreased cost), this was true for the 16 percent of the firms in business services and 25 percent of the firms in software industry. The majority of the firms in business services and software industry responded that it decreased their cost. About 20 percent of the high tech manufacturing firms, 32 percent of the business services firms, and 50 percent of the software firms said that CAFTA-DR has not had an impact on their economic performance.

Other effects of CAFTA-DR reported by the surveyed firms illustrated how CAFTA-DR improved the country's investment climate. The nine firms that selected other effects of the treaty listed the

following answers: CAFTA-DR created legal certainty, provided stability and clarity to trade relations with the USA, it made Costa Rica more attractive for new customers from the USA, created the possibility to import raw materials from other CAFTA-DR signing countries, improved Costa Rica's business environment conditions to stimulate tier two suppliers to follow OEMs, and improved Costa Rica's international reputation as having a good business climate, justifying why to invest in Costa Rica rather than in other countries.

2.6 CAFTA-DR, FDI and Exports in High-Tech Sector: Findings from Structural Interviews

To get further insights about the impact of CAFTA-DR in the high-tech sector, a set of 11 firms were interviewed in depth. Through open-ended questions, these structural interviews gathered information on whether and how CAFTA-DR impacted high-tech firms on their economic decisions, such as investment, output, exports and imports. Interviews were conducted during August – September 2013 with eleven firms: three in electronics, four in medical devices, one in software, two in the IT enabled services industry, and one in other advanced manufacturing. The firms, which were selected with the help of CINDE and technical experts, operate in the high-tech sectors of electronics (3), medical instruments (4), software and business services (3), and other manufacturing (1). COMEX helped in securing appointments with the firms in the sample.

Most of the interviewed firms indicated that CAFTA-DR had a positive impact on their investment decisions. However, the intensity of the impact and the channels through which it took place showed considerable variation among sectors. In the case of electronics, while one firm indicated “no impact”, for the other two the impact was considerable: one is moving several product lines from Europe to Costa Rica as a result of reduced U.S. tariffs for their products due to CAFTA-DR, and the other shifted from a “trial” to a “permanent” operation as a result of the treaty. In the case of medical devices, while one firm also indicated “no impact”, the other three indicated either that without CAFTA-DR they would not have an operation in Costa Rica, or that they would not have expanded their pre-CAFTA-DR levels of operation. For the firms in business services, the benefits are more indirect in that they are associated with the liberalization of the telecom and insurance markets, and enhanced legal security due to the treaty. In software, we found an interesting effect that perhaps applies to other sectors too, which is that the cost of bank financing has been reduced as a result of CAFTA-DR, through indirect channels: local banks are funded by USA banks, and those banks estimate that Costa Rica's country risk is lower than before due to CAFTA-DR. In consequence, their loan rates for local banks have been reduced, and some of this reduction has been passed on to local borrowers.

CAFTA-DR is viewed as commitment to policy stability and trade policies among the interviewed firms. With the exception of one firm, there was near unanimity in the sense that CAFTA-DR provided additional legal security, clear and stable “rules of the game” and that it signaled Costa Rica's commitment to its current trade and FDI attraction policies. This is particularly important as the confidence of foreign firms was badly shaken when the country discussed a change in the taxation regime for companies operating in Free Trade Zones, not long after the current regime had been approved by a unanimous vote in Congress in 2009. One firm even mentioned that CAFTA-DR provided protection against a possible return to protectionism in USA trade policy. Besides signaling the Costa Rican government's commitment to its current trade policies, CAFTA-DR was credited with bringing more legal security to the firms interviewed in several ways: it provides treaty-based preferential access conditions to the USA market, instead of the unilateral concessions under Caribbean Basin Initiative (CBI) that could have been withdrawn at any time; it provides a conflict resolution mechanism in case of disputes between foreign investors and the government of Costa Rica, and, for the one software firm in our sample, it provided increased legal security through a surprising channel: enforcement of IPR in Central American countries where these rights were not, or were feebly enforced before CAFTA-DR.

Among some of the interviewed firms, CAFTA-DR appears to have increased product lines and local linkages. For example, one company each in the electronics, medical devices and “other manufacturing” sector indicated that they were bringing new product lines to Costa Rica, but only in the case of electronics this was due to reduced import tariffs as a result of CAFTA-DR; in the other two cases, increased investor confidence seems to have been the key factor in the decision.

One firm in the electronics sector and one in the medical devices sector indicate that as a result of CAFTA-DR some of their clients were either expanding or setting up operations in Costa Rica, so that their local sales were increasing, while two firms in the electronic sector indicated that they were trying to source their imports from CAFTA-DR countries; one of them is specifically trying to strengthen its Costa Rica based supply chain.

A rejection of CAFTA-DR could have had a negative impact on the interviewed firms as reported by seven out of the eleven firms. One firm in the electronics sector indicated it would not have set up a permanent operation in Costa Rica, three out of four firms in the medical devices sector and one in the services sector indicated that while they would not have shut down the operations they had at the time of rejection, they would have been unlikely to make further investments in Costa Rica. A stable, instead of growing market was the estimated impact of the software firm, and a possible relocation outside Costa Rica of their main raw materials supplier could have been the consequence for the firm in the “other manufacture” sector.

Other impacts of CAFTA-DR include effects on competitiveness, origin of imports. Seven out of eleven firms estimated they were more competitive (or Costa Rica was more competitive as an investment destination) as a result of CAFTA-DR: one in the electronics sector, two in the medical devices sector, and all firms in the services, software and “other manufacture” sectors. CAFTA-DR had no impact in the destination of exports, but it has had a small impact on the origin imports. As some firms try to develop Costa Rica or CAFTA-DR-based supply chains, this impact could become bigger over time.

All firms in the electronics, medical devices, and services sectors indicated that their sectors were growing very quickly, and agreed that CAFTA-DR was helpful in increasing such growth. Some of them even identified CAFTA-DR as the decisive growth factor.

The results of our interviews with selected firms in the electronics, medical devices, services, software and “other manufacture” industries suggest that CAFTA-DR was relevant for foreign investors. For most investors CAFTA-DR has been clearly an important factor in deciding to set up or to expand their operations in Costa Rica. While it is true that in many cases CAFTA-DR has not fundamentally altered the economic conditions under which these firms operate - be it import tariffs in Costa Rica and the USA or income taxes in Costa Rica - CAFTA-DR has made a big difference because it has substituted treaty-based preferential access conditions to the USA market for the unilateral concessions that had been granted as part of the Caribbean Basin Initiative. One interviewee indicated that as Costa Rica “graduated” from poor to middle income country, the likelihood of keeping CBI benefits would become smaller overtime.

Just as importantly, CAFTA-DR reassured investors of Costa Rica’s government commitment to its current trade and FDI attraction policies. By providing policy continuity, clear and stable “rules of the game”, and mechanisms for conflict resolution between investors and the government of Costa Rica, CAFTA-DR increased investor’s confidence, and played a key role in the decision to set up or expand the operations of most of the firms that we interviewed.

Chapter 3. Insurance: The end of a monopoly, and a new beginning for a market²⁷

3.1 Introduction and Summary:

The CAFTA-DR agreement imposed significant change on the insurance sector. A new insurance law was required for the liberalized market, a supervisory authority needed to be established and developed to full functionality, and the Instituto Nacional de Seguros (INS), the existing monopoly insurer, needed to adjust to the new environment. Until liberalization, the life insurance sector had been particularly nascent whilst the non-life business showed a penetration²⁸ above regional comparisons but had tended to follow international pricing cycles with some amplification²⁹.

In fact, it is widely accepted that without the CAFTA-DR, there would have been no liberalization in the insurance sector. The market is now functioning in a competitive and open manner. New entrants have been established and are actively competing with the INS which is responding to the competitive landscape with its own innovations and strategies. Although CAFTA was the trigger for the liberalization, it is notable that all new insurers have come from domiciles outside the Central American signatories to the agreement.

Since liberalization, the market has shown healthy growth, improved efficiency, provided a better range of services to clients, and at better value. At the same time, analysis suggests the early pace and progress toward the new market structure is slower than the average of other comparative countries but not significantly out of line with expectations.

The chapter makes a number of recommendations:

- The liberalization of compulsory automobile and occupational risk insurances will likely require specific attention from SUGESE, particularly regarding adequate statistics for pricing and provisioning, and arrangements for the treatment of cases involving uninsured or unidentified motorists or employers.
- The expansion by the INS into new business lines and new jurisdictions should be progressed carefully and cautiously, and can benefit from learning the lessons of other entities that have tried and failed in similar endeavors.
- Continuing supervisory capacity development can be expected to be needed as an ongoing priority as the SUGESE staff continues to grow into their supervisory roles.

The chapter covers a summary of the most relevant legislative changes, a discussion of the market dynamics since liberalization, and then discusses what might be concluded from comparisons with other CAFTA-DR countries and markets that have liberalized. Some conclusions and policy recommendations are included in the final section.

3.2 Legislative Change

When the CAFTA-DR was ratified in October 2007, the steps to change for the insurance market were set in train. With a history dating back to the Insurance Monopoly Act of 1922, the insurance

²⁷ This chapter was written by Craig W. Thorburn (Lead Insurance Specialist).

²⁸ “Insurance penetration” is defined as Premium divided by GDP.

²⁹ These three issues were the themes of the World Bank advice provided in June 2004.

market in Costa Rica had been operated through the INS. CAFTA-DR included an important policy decision to open the market. It is widely recognized that, absent the motivation from the CAFTA-DR initiatives, the insurance market was unlikely to have liberalized.

In 2008, a new insurance law provided the key mechanism for liberalization. The Ley Reguladora del Mercado de Seguros was published in July 2008 and gazetted as Law No 8653 of 7 August 2008³⁰. The law abolished the INS's monopoly for most classes of insurance, albeit with a later deadline for compulsory automobile and occupational risk insurances. With limited exceptions, all insurance activity in Costa Rica has to be conducted by authorized organizations³¹. Insurers can be life, non-life or composite. Local entities may be cooperatives or public limited companies, although state owned banks may only act as minority shareholders with the INS. Foreign insurers may operate as locally incorporated entities or branches. The main regulations were issued shortly after the law was gazetted³². The authorities also issued a range of “acuerdos” and other circulars to clarify the requirements on insurers, intermediaries and other relevant actors in the insurance sector³³.

The same law established the supervisory authority (SUGESE). SUGESE commenced operations from within the pension superintendence. Operational separation was established in 2010. It now has a maximum permitted staff of 41 organized in three divisions (regulation and authorization, supervision and legal). From the commencement of the law, it has conducted a program of active on-site inspections to supplement off site operations, and established a complaint handling service. The SUGESE has indicated it would like to move to a more risk based supervisory approach. SUGESE is financed by an allocation from the Central Bank of Costa Rica (BCCR) although is substantively independent of it.

Investment and solvency regulations have been elaborated in line with an open but prudent approach. Minimum entry requirements for capital are set at levels that do not act as a barrier to entry for serious insurers³⁴. Investment requirements require an overall prudent approach. Limitations include the need for investments to be in publicly offered securities in Costa Rica or similar instruments in other jurisdictions.

For most products, a “file and write” system operates but active approval is required for compulsory lines of business. Initially, the review was motivated to give greater weight to consumer protection so focused more on the products issued in volumes (by the INS). This prioritization was the main reason some newer insurers comment that the process was not very fast at first. All insurers could leverage existing approvals if desired as SUGESE intended that they provided a solid benchmark. In mid-

³⁰ La Gaceta No 152 on 7 August 2008

³¹ Article 2 of the Insurance Law. There are limited exceptions such that non-admitted insurances are permitted on a cross-border basis with insurers in countries where there is a current trade agreement that makes provision for such cross-border transactions of insurance (Article 16 of the Insurance Law) and providers have to register with the SUGESE. To date, Costa Rica has undertaken commitments in cross-border trade of insurances services in the CAFTA-DR and the Association Agreement with the European Union

³² *Reglamento sobre Autorizaciones, Registros y Requisitos de Funcionamiento de Entidades Supervisadas pro la Superintendencia General de Seguros* and the *Reglamento sobre la Solvencia de Entidades de Seguros y Reaseguros* were both gazetted on 24 September 2008.

³³ “other relevant actors” includes actuaries, auditors, claims adjusters, etc.

³⁴ Minimum capital requirements are expressed in USD as 3 million for either a life or non-life insurer and 7 million for a composite. Reinsurers are required to have 10 million. These amounts currently translate to around USD 4.75 million, 10.5 million and 15.5 million respectively. Although these levels are the highest of all CAFTA-DR countries, they far from high when compared to, for example, those countries that are members of the ASSAL.

2013, legal issues were fully determined such that private insurers could participate in occupational risk and compulsory third party automobile insurance markets. These products have a standard benefit and coverage structure and a prices approved by SUGESE³⁵. Although it is not clear how many of the current insurers, or potential new entrants, will be attracted to this business, it is likely that SUGESE will have to review the arrangements for oversight of pricing, adequate data available to the market, and the treatment of cases such as those involving unidentified or uninsured drivers.

The legal framework was further enhanced with the issue of an insurance contract law, *Ley Reguladora del Contrato de Seguros*, in September 2011. SUGESE followed up the publication with regulations that support the law³⁶. This law has allowed more flexible intervention on consumer protection and policy wording issues so SUGESE can feel more comfortable with a more traditional file and write approach³⁷.

The liberalization under CAFTA-DR is not a one way street. The law also envisaged that the INS may consider operating in other markets. After some clarification of the form that engagement should take, the approach is now clear and unrestricted. The INS has applied to operate in Nicaragua and registered its trade mark in a number of other countries. In the past, the INS has also written some inward reinsurance and has several portfolios in run-off. The leading market position that the INS has in Costa Rica does suggest that both geographic and product diversity expansion should be beneficial and positive. However, the experience of other insurers in similar situations is not always positive. Learning from these experiences, the INS should progress carefully and cautiously.

3.3 Market Dynamics:

Market premium has been growing in a healthy fashion since the liberalization, particularly in the nascent life sector. By 2012 written premiums for all classes of business totaled CRC 466.16bn (USD 924.00mn) of which non-life premiums represented 80 percent. In local currency terms, this was an increase of just over 16 percent over 2011 figures. As would be expected at the time of liberalization, life insurance offered considerable potential to grow given it was substantially less developed. The stronger life growth is evident in the statistics in Table 3-1.

³⁵ Article 29 (e) of the Insurance law requires SUGESE authorization of tariffs for occupational risk and compulsory third party automobile insurance.

³⁶ *Transitorio I de la Ley Reguladora del Contrato de Seguros* was issued in the same month as the law was gazetted.

³⁷ Previously, for most lines of insurance, SUGESE received a technical report and could comment or require modification within a statutory 30 day period only so had limited opportunity to act after this period (Article 29 (d) of the Insurance Law)

Table 3-1: Trends in Market Size and Development

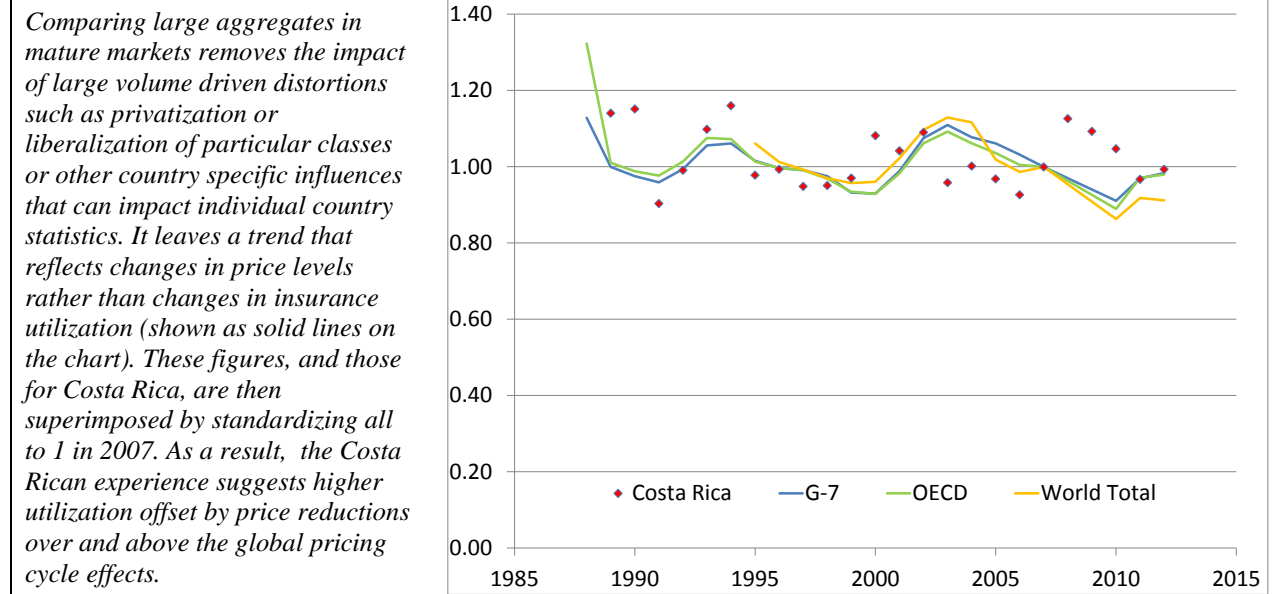
| | 2002 | 2007 | 2010 | 2011 | 2012 | Rates of Growth (percent per annum) | | |
|---|------------|------------|------------|------------|------------|-------------------------------------|---------|----------|
| | | | | | | 1 year | 5 years | 10 years |
| <i>Insurance Premium (in millions local currency)</i> | | | | | | | | |
| - Life insurance | 13,726.39 | 28,646.37 | 51,151.53 | 69,191.83 | 93,050.45 | 34.48% | 26.57% | 21.09% |
| - Non life insurance | 109,406.62 | 225,027.51 | 326,598.70 | 331,998.72 | 373,105.47 | 12.38% | 10.64% | 13.05% |
| Total | 123,133.01 | 253,673.88 | 377,750.23 | 401,190.55 | 466,155.92 | 16.19% | 12.94% | 14.24% |
| <i>Insurance Premium (in millions USD)</i> | | | | | | | | |
| - Life insurance | 38.15 | 55.45 | 97.28 | 136.83 | 184.44 | 34.79% | 27.17% | 17.07% |
| - Non life insurance | 304.06 | 435.58 | 621.11 | 656.57 | 739.55 | 12.64% | 11.17% | 9.30% |
| Total | 342.21 | 491.03 | 718.39 | 793.40 | 924.00 | 16.46% | 13.48% | 10.44% |
| <i>Insurance Penetration (premium to GDP)</i> | | | | | | | | |
| - Life insurance | 0.23 | 0.21 | 0.27 | 0.33 | 0.41 | 22.93% | 14.26% | 6.12% |
| - Non life insurance | 1.81 | 1.65 | 1.73 | 1.60 | 1.64 | 2.73% | -0.12% | -0.93% |
| Total | 2.03 | 1.87 | 2.00 | 1.93 | 2.05 | 6.21% | 1.95% | 0.11% |
| <i>Insurance Density (premium per capita) in local currency</i> | | | | | | | | |
| - Life insurance | 3,364.31 | 6,437.39 | 10,976.72 | 14,628.29 | 19,385.51 | 32.52% | 24.67% | 19.14% |
| - Non life insurance | 26,815.35 | 50,567.98 | 70,085.56 | 70,190.00 | 77,730.31 | 10.74% | 8.98% | 11.23% |
| Total | 30,179.66 | 57,005.37 | 81,062.28 | 84,818.30 | 97,115.82 | 14.50% | 11.24% | 12.40% |
| <i>Insurance Density (premium per capita) in USD</i> | | | | | | | | |
| - Life insurance | 9.35 | 12.46 | 20.88 | 28.93 | 38.43 | 32.83% | 25.26% | 15.18% |
| - Non life insurance | 74.52 | 97.88 | 133.29 | 138.81 | 154.07 | 11.00% | 9.50% | 7.53% |
| Total | 83.87 | 110.34 | 154.16 | 167.74 | 192.50 | 14.76% | 11.77% | 8.66% |

Source: AXCO, Staff Calculations

Note: In Costa Rica, Personal Accident and Health is considered to be Life Insurance.

Growth in the sector has been heavily influenced by global pricing cycles in the non-life sector (Figure 3-1). Figure 3-1 shows that levels of insurance penetration follow the global trend consistent with a view that global market prices were the main driver of total premium figures suggesting there has been no material change in insurance utilization. Before the liberalization took effect, there is an increase in penetration levels, and after liberalization, trends have returned to match global prices. This would also be consistent with the relatively high need for reinsurance protection in Costa Rica (discussed below). However, the trends are also heavily influenced by the response of the INS to competitive pressures both in preparation for and after the arrival of competitors. Innovations in distribution and reach by insurers have increased insurance utilization but an offsetting effect is evident in price reductions.

Figure 3-1 Explaining non-life insurance penetration trends



Source: AXCO, Staff Calculations

The market is now operating on an open, competitive basis. During 2009, a number of foreign insurers applied for authorization. By February 2010, four new insurers had been authorized and an insurance association, the Asociacion Costarricense de Aseguradores y Reaseguradores (ACAR), had been established. An association of private insurers was set up in 2011. By early 2013, further market entry, and the acquisition of the Alico business by Panamerican Life, meant that 12 insurers were competing in the market (refer Table 3-2). None of the new entrants have come from other Central American CAFTA countries and the liberalization opened the market to all potential applicants regardless of country of origin.

Compulsory automobile and occupational risk insurances have been liberalized after legal disputes were resolved. The opening up of the compulsory markets had been due at the start of 2011, but there was a legal dispute over whether these classes could be provided by the private insurers in the market. This was resolved in mid-2013 by the constitutional court although the INS will have an ongoing advantage in these products not least because it has extensive data on past claims experience. As noted, it is desirable that SUGESE should review arrangements for oversight of pricing, ensuring adequate data is available to the market, and regarding the treatment of cases such as those involving unidentified or uninsured drivers.

Table 3-2: Insurers operating in Costa Rica since liberalization

| Insurer | Date of entry | Business Lines | Ownership / Capital | Premium (and Market Share) | | Comments |
|---|--------------------------|----------------|---|----------------------------|--------------------|---|
| | | | | Life | Non-Life | |
| INS | 1924 | Composite | Costa Rica: State owned | 194,947 (93.75) | 234,521 (90.82) | |
| Seguros del Magisterio | By feb 2010 | Life | Costa Rica: Cooperative based on life insurance for education workers. | 2,558 (1.23) | | |
| Alico Costa Rica (American Life) | By feb 2010 | Life | USA | | | Originally part of AIG, sold to MetLife through AIG restructure. Regional business transferred to PALIC (announced November 2011, transferred November 2012). |
| ASSA Compañía de Seguros | By feb 2010 | Composite | Panama | 887 (0.43) | 14,561 (5.64) | Although registered as a composite, ASSA has written non-life and personal accident business only to 2012 but indicates it will enter life insurance from May 2013. |
| Mapfre | (as Mundial) by feb 2010 | Composite | Panama / Spain | 1,326 (0.64) | 8,004 (3.10) | Initially registered for non-life but became composite in 2011. Re-branded from "Mundial". |
| Pan American Life Insurance de Costa Rica (PALIC) | March 2010 | Life | USA (Louisiana) | 5,006 (2.41) | | |
| Aseguradora del Istmo (ADISA) | Dec 2010 | Composite | Ultimately Australian (QBE) via <i>QBE Del Istmo Compañía de Reaseguros, Inc.</i> of Panama and the <i>Cooperativa Nacional de Educadores, Coopenae</i> of Costa Rica | 2,815 (1.35) | 106 (0.04) | A life insurer but writes some personal accident business. |
| Quálitas Compañía de Seguros (Costa Rica) | June 2011 | | Mexico | | 1,028 (0.40) | A specialist motor insurer in Mexico |
| Seguros Bolívar Aseguradora Mixta | 2011 | Composite | Colombia | 153 (0.07) | | |
| Best Meridian Insurance Company | | Life | U.S. (Florida) | 197 (0.09) | | |
| Atlantic Southern | July 2012 | | U.S. (Puerto Rico) | 47 (0.02) | | Company also operates in US and British Virgin Islands as well as Puerto Rico. |
| Oceánica de Seguros | July 2012 | Composite | Venezuela | | | |
| Sagicor | February 2013 | Composite | Barbados | | | |

Source: AXCO, Staff Analysis

Note: Premiums and Market Shares are shown in the most recent year that each company participated in the market.

The market composition in terms of insurers, market share, and product offerings is still developing. The market share of the INS has fallen to around 90 percent of the total market (including compulsory classes) and the Herfindahl index has reduced to 8,799 and 8,290 for life and non-life segments respectively. The increased proportion of business represented by life insurance and the falling measure of motor insurance as a proportion of total non-life business are both indicators of a maturing market. Further, the product mix for non-life is becoming more diverse, reducing the level of risk to insurers as they have a more diverse portfolio of risks (refer Table 3-3).

Legally, intermediation can be conducted through either agents or brokers, both of which can be individuals or companies. The INS had been operating through corporate agents (agencias comercializadoras) who generated around 80 percent of business. Banks are permitted to set up insurance intermediaries and have done so particularly to deliver products packaged with lending activities³⁸. SUGESE had registered 63 agency companies, 1,692 individual agents, 17 broking firms and 177 individual brokers as of mid-2013. In addition there were 49 distributors of mass-marketed insurances and 2 registered cross-border providers³⁹. Numbers of registered individuals has grown steadily since liberalization as has the diversity of distribution activities.

Innovations in distribution that are likely to increase access to insurance have been facilitated by “seguros autoexpedibles”. Products are approved for “mass marketing” purposes with lower and more standardized terms in some cases and include life, funeral, personal accident and motor coverage. The INS has indicated it is distributing such products through kiosks and relationships with other distribution options such as banks, retailers, and the post office.

Despite the prohibition on placing insurance with carriers not licensed in Costa Rica, the market considers that there is unreported informal leakage. There are no exchange control restrictions and remittances are efficiently processed by the banking sector. There is a belief that visiting brokers from other markets do secure some business not in compliance with the insurance law, and the taxation treatment of this informal insurance is not clear although it would appear to also avoid premium duties and fire levies⁴⁰. A significant number of US and Canadian citizens have retired to Costa Rica and foreign non-admitted insurers are reported to advertise targeting expatriates. The CONASSIF has also issued a regulation in late 2012 that facilitates a legal form of fronting for some commercial classes⁴¹, and there is no minimum retention requirement in Costa Rica.

³⁸ Banks have been permitted to act as intermediaries since 2001 in Costa Rica.

³⁹ Two entities have registered to do specific business on a cross border basis 1) Factory Mutual Insurance Company (Rhode Island) to do certain international group insurance for international conglomerates; and 2) Caledonian Insurance Group (Washington) acting as a broker for aviation risks.

⁴⁰ All non-life insurances are subject to a 13 percent sales tax. The fire brigade charge stands at 4 percent of premiums and is charged to all classes as part of the quoted premium (including life insurances) and came about because the INS used to include this rate in all products it issued and was administered the fire brigade before liberalization. A 33 percent charge is placed on compulsory automobile insurance although there is little practical impact on the informality issue related to offshore insurances in that case given that it cannot be written outside Costa Rica even under the legal clauses for countries with trade agreements. Similarly, there is a 5.5 percent withholding tax on reinsurance premiums ceded to reinsurers not domiciled in Costa Rica.

⁴¹ *Reglamento sobre Autorizaciones, Registros y Requisitos de Funcionamiento de Entidades Supervisadas por la Superintendencia General de Seguros* issued by CONASSIF in September 2012 permitted “paired” or “free discussion” insurance in marine hull, aviation, railway vehicles, cargo, fire and allied perils and third party liability provided that the insurers are registered for the relevant class of business and the premium exceeds 200,000 UD (unidad de desarrollo, around USD 315,000). These insurances are reported to SUGESE.

Table 3-3: Competition, Development and Performance Indicators

| <i>Competition Measures</i> | | 2002 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|--|--|--------|--------|--------|--------|--------|--------|-------------------------|-------------------------------------|
| Herfindahl Index | | | | | | | | | |
| - Life insurance | | 10,000 | 10,000 | 10,000 | 10,000 | 9,895 | 9,740 | 8,868 | 8,799 |
| - Non Life insurance | | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 9,766 | 8,877 | 8,290 |
| Market Share of Largest 5 Insurers (percent) | | | | | | | | | |
| - Life insurance | | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 99.91 | 99.38 |
| - Non Life insurance | | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| <i>Product Portfolio - Product Mix and Diversity</i> | | 2002 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Developmental indicators of proportions of products | | | | | | | | | |
| Life insurance to total premium | | 11.1% | 14.7% | 11.3% | 13.0% | 14.1% | 13.5% | 17.2% | 20.0% |
| Motor insurance to total non life insurance | | 45.6% | 43.8% | 44.2% | 42.1% | 40.5% | 38.4% | 37.5% | 39.0% |
| Non life product mix | | | | | | | | | |
| Property | | 23.7% | 17.9% | 20.0% | 18.6% | 22.3% | 20.8% | 19.4% | 18.7% |
| Construction and engineering | | 2.6% | 3.0% | 3.2% | n/a | n/a | n/a | n/a | n/a |
| Motor | | 45.6% | 43.8% | 44.2% | 42.1% | 40.5% | 38.4% | 37.5% | 39.0% |
| Workers Compensation | | 21.0% | 28.2% | 26.3% | 30.2% | 27.4% | 30.1% | 31.1% | 30.6% |
| Liability | | 1.4% | 2.2% | 2.1% | n/a | n/a | 2.5% | 2.0% | 2.6% |
| Surety, Bonds & Credit | | 1.3% | 1.0% | 0.7% | n/a | n/a | 0.3% | 0.5% | 0.4% |
| Miscellaneous | | n/a | n/a | n/a | n/a | n/a | 5.6% | 7.4% | 6.9% |
| Marine, Aviation and Transit | | 4.5% | 4.0% | 3.6% | 9.1% | 9.8% | 2.3% | 2.0% | 1.9% |
| Personal Accident & Healthcare (Non-life) | | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| <i>Profit and volatility</i> | | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | <i>Data set average</i> | <i>Data set co-eff of variation</i> |
| Claims ratios | | | | | | | | | |
| Property | | 10.60 | n/a | n/a | 14.34 | 24.81 | 46.14 | 20.24 | 1.113 |
| Construction and engineering | | 10.22 | n/a | n/a | n/a | n/a | n/a | 22.23 | 1.066 |
| Motor | | 39.90 | n/a | n/a | 47.19 | 53.53 | 52.99 | 57.20 | 0.174 |
| Workers Compensation | | 56.41 | n/a | n/a | 49.54 | 53.94 | 51.30 | 67.36 | 0.207 |
| Liability | | 13.83 | n/a | n/a | 19.59 | 39.62 | 30.41 | 33.93 | 1.496 |
| Surety, Bonds & Credit | | 25.44 | n/a | n/a | 383.93 | 191.59 | 203.35 | 94.20 | 1.172 |
| Miscellaneous | | n/a | n/a | n/a | 34.71 | 17.83 | 25.43 | 25.99 | 0.325 |
| Marine, Aviation and Transit | | 24.51 | n/a | n/a | 34.43 | 50.48 | 48.24 | 34.80 | 0.297 |
| Personal Accident & Healthcare (Non-life) | | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| All Non Life Insurance | | 36.24 | 43.09 | 56.57 | 40.25 | 45.73 | 49.24 | 49.60 | 0.161 |

Source: AXCO, Staff Calculations

Claims ratios reflect both a profitable although not entirely stable insurance experience. With the exception of the small surety portfolio, claims ratios are all well below levels needed for profitable underwriting and by world standards. The market claims ratio stood at just below 50 percent of premiums. The INS announced increases in compulsory third party automobile insurance premiums in 2012 by an average of 43.25 percent after an average reduction in 2011 of 13.89 percent. Volatility measures are higher than world averages although this may be the result of a small market and could be expected to improve as experience develops over time.

Exposure to natural catastrophes requires careful management of risk accumulations by insurers and effective access to and use of reinsurance protection. Costa Rica is exposed to significant earthquake and active volcanic risks. It has been impacted by hurricanes although is not in the most active part of the hurricane region, and tropical storms have led to significant flood events. Retention rates for the sector are heavily determined by the approach that the INS takes in the current market given its size, and there is no public information on cessions by insurer. Overall, it is reported that the market ceded around 33.8 percent of gross premium in 2011 and 32.6 percent in 2011.

Total assets have increased in real terms enabling the sector to play an increased role as an institutional investor. Total assets have been growing as the sector increases and business becomes more mature and now stands at CRC 1,484 billion. In the last two years alone, the investments that the sector is making has increased by 6.7 percent over and above GDP increases (refer growth in assets to GDP in Table 3-4).

Table 3-4: Total Assets (CRC Millions)

| | 2010 | 2011 | 2012 |
|------------------------|-----------|-----------|-----------|
| Assets | 1,155,893 | 1,341,088 | 1,484,494 |
| As a percentage of GDP | 6.13 | 6.47 | 6.54 |

Source: AXCO, Staff Calculations

Note: Assets are not reported separately between life and non-life sectors.

The industry has become more efficient. Expense rates have reduced by 10 percent over the most recent reporting periods. This can be attributed to the impact of competitive initiatives on expense control, innovation from new entrants, as well as the economies that are naturally generated from the increased market size. However, it is to the credit of the management of the sector that cost savings have been passed to customers (refer Table 3-5).

Table 3-5: Expense Ratios (Expenses to Premiums (percent))

| | 2010 | 2011 | 2012 |
|-------------------------|-------|-------|-------|
| Administrative Expenses | 22.35 | 23.09 | 20.02 |
| Acquisition Costs | 7.84 | 7.49 | 7.11 |
| Total | 30.19 | 30.59 | 27.13 |

Source: AXCO, Staff Calculations

Note: Assets are not reported separately between life and non-life sectors.

The market has overcome the initial costs of establishing operations and is now profitable. In 2010, only the INS was profitable but the total market has reported a pre-tax profit of 76,591 CRC million or 16.4 percent of gross premium compared to 13.6 percent of gross premium in 2011.

At the same time, the value provided by insurance products has increased providing a material benefit to clients as a result of competition. A 20 percent increase in claims ratios (payouts as a proportion of premiums) demonstrates increased value for money to the market and real economy. With the improved efficiency and value, a conservative estimate of the direct benefit to the real economy of the market developments since the reform is around CRC 100 billion per year so far.

3.4 Comparison with CAFTA-DR and ASSAL countries:

The Costa Rican market is already substantial compared to other CAFTA-DR jurisdictions. The market is larger (in USD premium terms) than any of the other countries and has been growing more rapidly in both life and, with the exception of measures in local currency, in non-life insurances. As a result of the faster growth, the sector might more aspiringly be compared to the ASSAL averages and ratios, suggesting a growth potential in premium of at least 50 percent in the medium term and a life sector that is three times the current size.

The potential for continued growth and development is highlighted. Costa Rica has the lowest proportion of premium generated from life insurance of all the countries in Table 3-6 highlighting that the sector has a considerable way to go to reach these comparatives let alone broader averages. Motor

insurance at a proportion of total non-life premium is higher than other countries in the CAFTA group with the exception of Nicaragua, indicating scope for further maturing and diversification in the non-life sector also. Diversification measures also suggest that there is room for further innovation in products to meet market opportunities.

Other markets tend to have higher and more volatile claims experience with the exception of Nicaragua. The lower volatility and greater fundamental profitability inherent in the Costa Rican non-life market also suggests that the market is attractive.

Table 3-6: Comparative Statistics Indicative of Insurance Markets in CAFTA-DR and ASSAL

| | Costa Rica | Dominican Republic | El Salvador | Guatemala | Honduras | Nicaragua | CAFTA | ASSAL |
|---|------------|--------------------|-------------|-----------|----------|-----------|----------|------------|
| <i>Growth in premium in local currency</i> | | | | | | | | |
| - Life | 26.57% | 15.55% | 9.51% | 12.65% | 11.65% | 13.16% | | |
| - Non-life | 10.64% | 6.97% | 5.10% | 7.46% | 5.41% | 11.84% | | |
| Total | 12.94% | 8.65% | 6.52% | 8.41% | 8.11% | 12.17% | | |
| <i>Market Premium in USD</i> | | | | | | | | |
| - Life | 184.44 | 174.16 | 187.43 | 121.60 | 173.50 | 36.62 | 877.75 | 117,289.77 |
| - Non-life | 739.55 | 568.11 | 315.44 | 471.80 | 191.74 | 108.58 | 2,395.23 | 115,260.72 |
| Total | 924.00 | 742.27 | 502.87 | 593.40 | 365.24 | 145.20 | 3,272.98 | 232,549.49 |
| <i>Growth in premium in USD</i> | | | | | | | | |
| - Life | 27.17% | 11.77% | 9.51% | 12.18% | 11.65% | 8.83% | 13.59% | 13.16% |
| - Non-life | 11.17% | 3.47% | 5.10% | 7.01% | 5.41% | 7.57% | 6.57% | 10.61% |
| Total | 13.48% | 5.10% | 6.52% | 7.96% | 8.11% | 7.88% | 8.20% | 11.06% |
| <i>Insurance Penetration (Premium to GDP percent)</i> | | | | | | | | |
| - Life | 0.41 | 0.30 | 0.75 | 0.23 | 0.92 | 0.45 | 0.43 | 1.20 |
| - Non-life | 1.64 | 0.96 | 1.39 | 0.90 | 1.02 | 1.33 | 1.16 | 1.90 |
| Total | 2.05 | 1.26 | 2.14 | 1.13 | 1.93 | 1.78 | 1.59 | 3.11 |
| <i>Growth in Insurance Penetration</i> | | | | | | | | |
| - Life | 14.26% | 3.94% | 4.88% | 2.99% | 2.58% | 1.19% | 4.98% | 4.20% |
| - Non-life | -0.12% | -3.78% | 0.66% | -1.75% | -3.16% | 0.01% | -1.51% | 1.89% |
| Total | 1.95% | -2.27% | 2.02% | -0.88% | -0.68% | 0.30% | 0.00% | 2.29% |
| <i>Insurance Density (Premium per capita in USD)</i> | | | | | | | | |
| - Life | 38.43 | 17.95 | 25.66 | 8.04 | 21.16 | 5.28 | 17.25 | 175.52 |
| - Non-life | 154.07 | 58.57 | 47.60 | 31.18 | 23.38 | 15.67 | 47.11 | 247.45 |
| Total | 192.50 | 76.52 | 73.26 | 39.22 | 44.54 | 20.95 | 64.36 | 422.97 |
| <i>Growth in Insurance Density</i> | | | | | | | | |
| - Life | 25.26% | 11.37% | 9.05% | 9.43% | 8.67% | 4.14% | 11.33% | 11.73% |
| - Non-life | 9.50% | 3.10% | 4.66% | 4.38% | 2.59% | 2.93% | 4.45% | 9.22% |
| Total | 11.77% | 4.73% | 6.07% | 5.31% | 5.22% | 3.23% | 6.05% | 9.66% |
| <i>Herfindahl Index</i> | | | | | | | | |
| - Life | 8,799 | 1,674 | 960 | 1,103 | 1,471 | 2,563 | 2,762 | 2,182 |
| - Non-life | 8,290 | 1,507 | 961 | 1,581 | 1,703 | 2,215 | 2,710 | 1,826 |
| <i>Development Indicators</i> | | | | | | | | |
| Life to total | 20.0% | 23.5% | 35.0% | 20.5% | 47.5% | 25.2% | 26.8% | 50.4% |
| Motor to non-life | 39.0% | 38.8% | 19.3% | 28.7% | 33.0% | 46.7% | 34.3% | 35.0% |
| <i>Product Mix</i> | | | | | | | | |
| Property | 18.7% | 43.8% | 30.2% | 25.6% | 46.1% | 36.9% | 33.6% | 24.6% |
| Construction and engineering | 0.0% | 0.0% | n/a | 3.7% | 6.9% | 4.5% | 3.0% | 5.1% |

| | Costa Rica | Dominican Republic | El Salvador | Guatemala | Honduras | Nicaragua | CAFTA | ASSAL |
|---|------------|--------------------|-------------|-----------|----------|-----------|-------|-------|
| Motor | 39.0% | 38.8% | 19.3% | 28.7% | 33.0% | 46.7% | 34.3% | 35.0% |
| Occupational risk | 30.6% | n/a | n/a | n/a | n/a | n/a | 30.6% | 19.6% |
| Liability | 2.6% | 0.0% | 0.0% | 2.1% | 3.0% | 2.4% | 1.7% | 3.7% |
| Surety, Bonds & Credit | 0.4% | 3.7% | 3.5% | 4.9% | 3.3% | 4.6% | 3.4% | 5.0% |
| Miscellaneous | 6.9% | 8.7% | 25.4% | 1.6% | 1.7% | 1.2% | 7.6% | 7.8% |
| Marine, Aviation and Transit | 1.9% | 5.0% | 0.0% | 6.8% | 6.0% | 3.7% | 3.9% | 5.3% |
| Personal Accident & Healthcare (Non-life) | n/a | n/a | 21.5% | 26.6% | n/a | n/a | 24.1% | 19.4% |
| <i>Claims Ratio Experience</i> | | | | | | | | |
| - Non Life Data Set Average | 49.60 | 55.83 | 33.63 | 63.29 | 63.13 | 33.75 | 50.03 | 54.70 |
| - Coefficient of Variation | 0.161 | 0.949 | 1.206 | 0.249 | 1.339 | 0.163 | 0.665 | 0.404 |

Source: AXCO, Staff Calculations

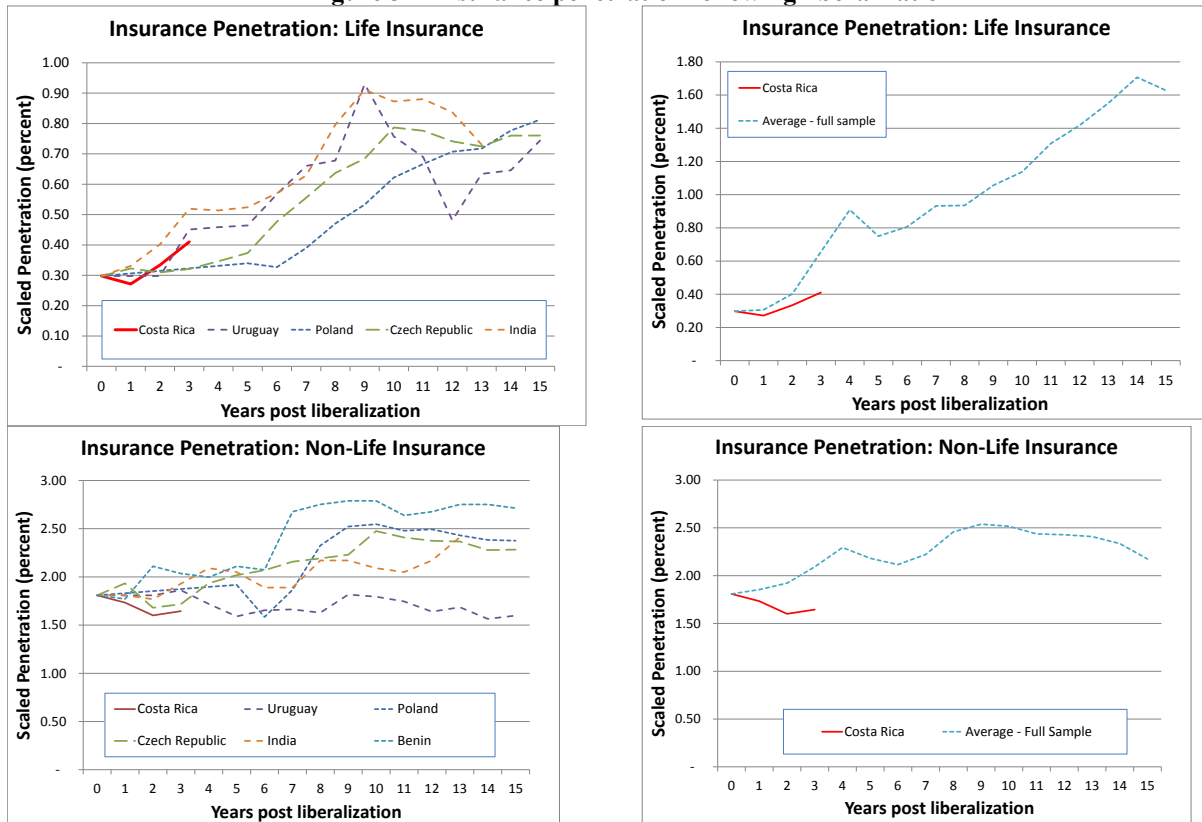
Note: All growth rates cover the latest 5 years available to 2012 and are expressed in percentages per annum. CAFTA averages are the average proportion of the product line in the case of countries that have such a line reported in the data set so do not add to 100 percent.

3.5 Interpreting Developments:

The experience of other liberalizing countries can provide an indication of the direction and destination of the Costa Rican insurance sector. Several comparisons have been developed based on measures of market development and market shares comparing them to markets that have similarly opened up their market from a mandated monopoly. Opening values are standardized where needed to the levels comparable with the Costa Rican starting position. Charts show a range of countries to highlight the range of potential outcomes and consistency of tendencies across the data set. Separately, the position of Costa Rica against the average of all countries in the comparative group is shown for clarity.

Like many countries, the Costa Rican case has presented one of progressive liberalization of product lines and a relatively weak life sector. Costa Rica's market has seen the life insurance penetration increase already but the experience of other countries suggests there could be a considerable path of real growth ahead. If Costa Rica continues on a similar path then the life sector can be expected to continue growth above the rate of GDP for an extended period and become very materially larger in real terms; the trends suggest that the sector could grow from 0.3 percent of GDP something more like four times the size in 15 years. Non-life products tend to more closely follow GDP given the need to insurer what is fundamentally the economic activity in the jurisdiction.

Figure 3-2 Insurance penetration following liberalization



As would be expected, the INS has set out to defend its market position whilst new entrants focus on innovation in products and services to attract customers and explore new market segments. Sensible strategic directions at liberalization would indicate that the INS should seek to maintain market momentum in key products rather than develop new initiatives where it had limited experience. At the same time, it needed to enhance operating and administrative processes and realign business priorities⁴². New players would have been attracted to the nascent life sector where the INS had demonstrated weaker capacity and foreign players would seek to leverage their technical experience in innovative products and distribution. Even though the market share of the INS would be expected to decrease, the increased size of the total market will help the INS so long as it can grow its absolute premium levels to ensure it can cover its fixed cost structure.

All of these expected trends are evident in the actual post liberalization developments. The INS market share has reduced to around 90 percent. Premium growth in the market has meant that the INS premium has increased at 6.3 percent per annum over the last four years, and stands at CRC 429 billion in 2012. New players have been more aggressive in the life sector.

⁴² For example, the INS separated the previously operated fire service. It also announced it was to sell its pension fund operator in June 2012 to merge it with *BCR Pensiones*, an operation of *Banco de Costa Rica*.

Box 3-1: Comparing Czech Republic, Uruguay and Poland

The market in Uruguay operated as a monopoly through the state owned *Banco de Seguros del Estado* (BSE) until new legislation was introduced in 1994. An exception to the monopoly was insurers and insurance conducted before the monopoly was introduced, effectively marine and cargo insurance. Once liberalized, worker's compensation, bonds and health insurance for public sector employees remained with the BSE. Compulsory third party automobile insurance was introduced in 2009.

The Polish insurance sector was, between 1948 and 1989, operated as a monopoly by the state owned PZU (domestic business) and WARTA (reinsurance and hard currency insurances). These two companies remained in the liberalized market and were partly-privatized in 1999. In the Czech Republic, the Ceska Pojistovna lost its monopoly in 1989 but did not see a competitor formed until 1993, and it did not lose its monopoly for motor insurance until 2000 and aviation in 1997.

Table 3-7: Comparative Statistics between Costa Rica, Poland and Uruguay

| | Costa Rica | Czech Republic | Poland | Uruguay |
|---|------------|----------------|---------|---------|
| Land Size (Square Kilometers) | 51,100 | 78,864 | 312,683 | 176,215 |
| Population in 2012 (millions) | 4.80 | 10.50 | 38.10 | 3.38 |
| GDP 2012 (millions USD) | 45,108 | 195,657 | 489,235 | 47,777 |
| Insurance to GDP 2012 | | | | |
| - Life insurance | 0.41 | 1.88 | 2.30 | 0.57 |
| - Non life insurance | 1.64 | 2.13 | 1.60 | 1.59 |
| Claims Ratios | | | | |
| - Non Life Data Set Average | 49.60 | | 57.53 | 47.14 |
| - Most recent | 49.24 | | 63.74 | 49.39 |
| Expense Ratios – Non Life | | | | |
| - Non Life Data Set Average | 29.30 | | 33.60 | 43.20 |
| - Most recent | 27.13 | | 31.97 | 36.94 |
| Proportion of market that is life insurance | 20.0% | | 58.9% | 26.4% |
| Proportion of non-life market that is motor | 39.0% | | 56.8% | 40.1% |

Source: AXCO, Staff Analysis

Since liberalization in these countries, both sectors have grown and developed, and the nascent life insurance sector has been more dynamic. Life insurance, as a proportion of total premium has practically doubled in the last 15 years, from 12 percent to over 26 percent in Uruguay and from 34 percent to just under 60 percent in Poland. The non-life sector has become less dependent on motor insurance over the same period, from nearly 45 percent of non-life premium to 40 percent in Uruguay and from 71 percent to 57 percent in Poland reflecting increased product innovation and diversification better meeting the needs of the real economy.

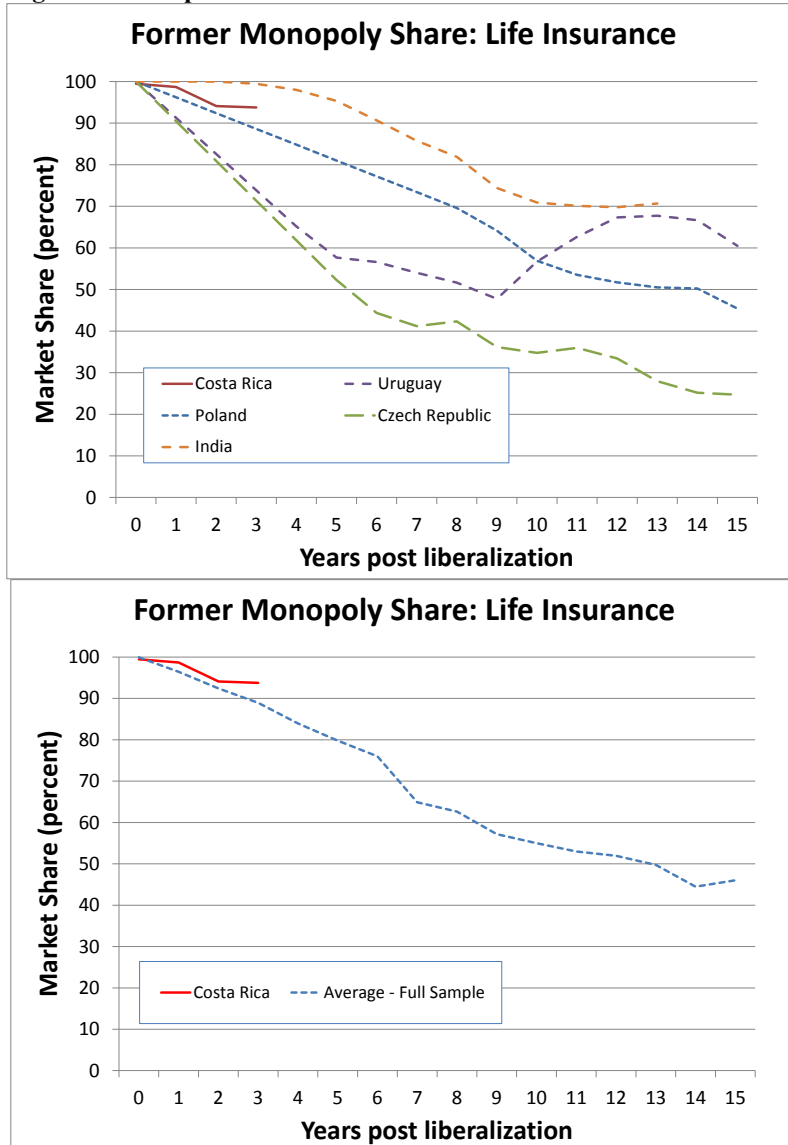
Although the former monopoly insurer market shares have fallen steadily, these insurers have seen steady growth in premium every year since liberalization with the exception of single economic crisis events, and then only marginally. Initially, the BSE wrote around 10 percent of total premium as life insurance and 90 percent as non-life insurance similar to the INS. Life insurance has now grown to over 25 percent of the BSE's gross written premium. Over the last 15 years, life insurance premium for the BSE has grown at 17.6 percent per annum and non-life insurance premiums have grown by 9.7 percent per annum. Life insurance premium at the two former monopoly insurers in Poland has grown by 10.1 percent per annum over the last 15 years and total premium has grown by 6.5 percent per annum.

Looking at comparisons with other countries suggests that many indicators in Costa Rica are tracking at the same rate of change and similar pace of change. Figure 3-3 includes who have

followed the same path tend to be ahead of Costa Rica. The falling market share of the INS is largely in line with other experiences so far and can be expected to continue for a good number of years.

The INS life insurance market share has held up slightly more than would be expected. One explanation would be the invigoration of life insurance as a concept more generally. Another could be the aggressive efforts to engage with distribution networks by the INS (both traditional and innovative). The new entrants into Costa Rica might also be less innovative as they are not, by global measures, large insurers. As a result, new entrants might not be competing as effectively as their peers in other markets.

Figure 3-3 The pace and direction of liberalization on market shares: Costa Rica follows a well-worn path

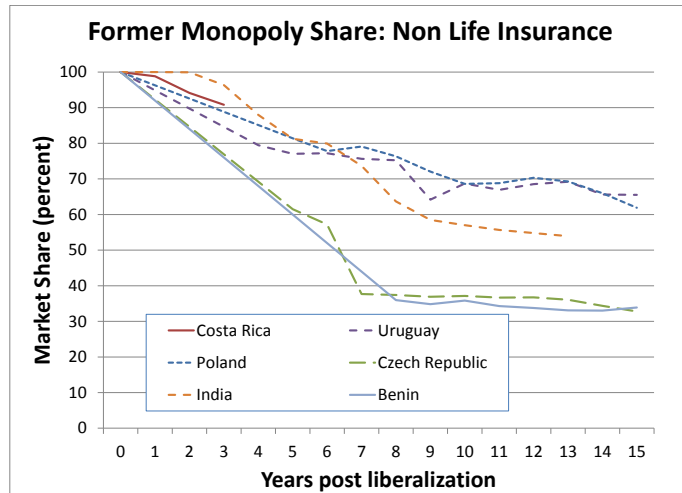


The former monopoly insurer, naturally, sees a reduction in market share but the process is more evolutionary than revolutionary...

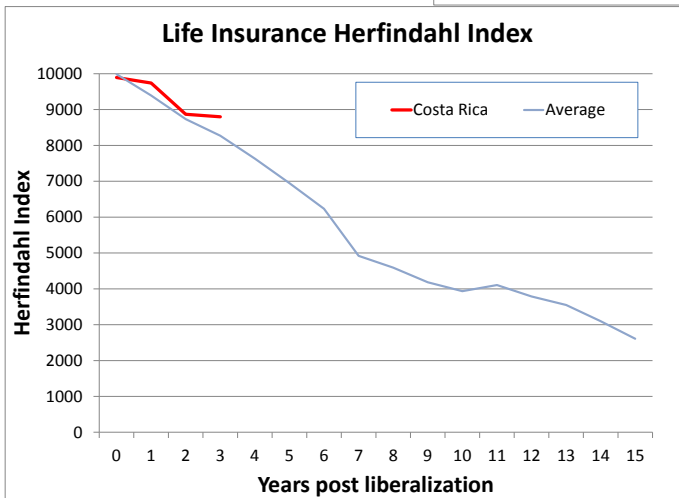
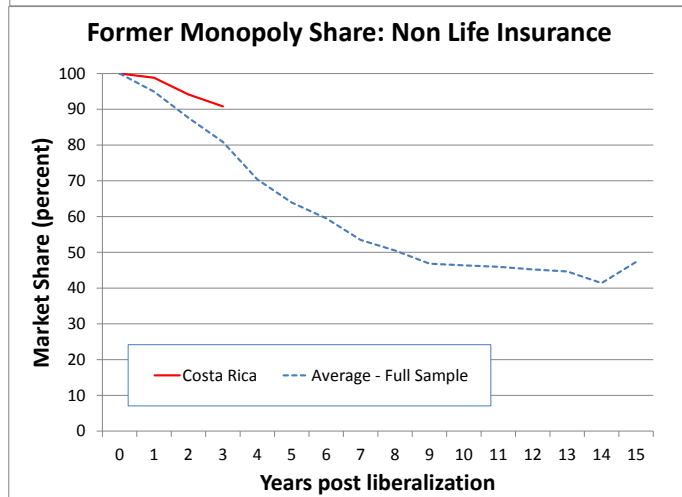
In all cases, premium levels for the former monopoly insurer grow strongly despite the fall in share because of the overall market growth rates ...

And the INS share is very consistent with the comparative experience in other markets so far..

The Costa Rican experience is similar to the other country examples, particularly so for the larger non-life sector. The INS market share can be expected to reduce over time in a steady manner.

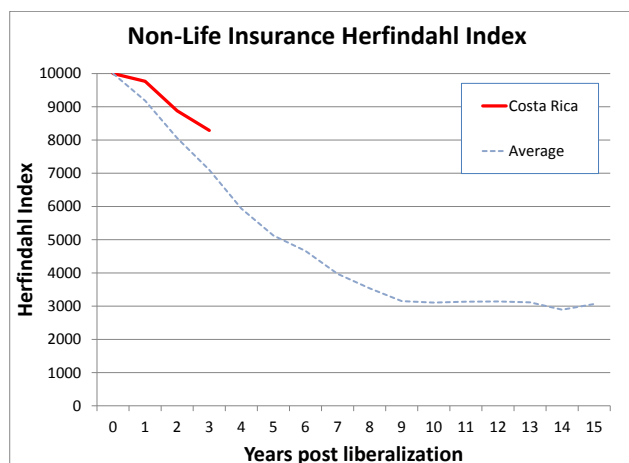


The INS has been more successful in retaining market share compared to expectation in the non-life segment



Consistent with the realignment of market shares, the herfindahl measures are expected to fall over a period of ten to 15 years before stabilizing and reaching a more mature stage.

Costa Rica has commenced the transition phase measured by the herfindahl index in line with expectations.



The Costa Rican liberalization and the trends so far, are very much in line with what should be expected given the experience of other countries. New entrants are seeking to compete and innovate, and the incumbent is seeking to defend share and meet new market challenges. In line with other countries, the experience and rate of change is similar. However, on each measure the Costa Rican values suggest that, whilst within comparable ranges, the Costa Rican experience has been of a slightly conservative result suggesting the potential for a somewhat quicker pace of change might be expected. Either way, the measures and trends point to continued reductions in INS market share, sector growth, and positive development.

3.6 Outlook:

Already, the insurance sector is showing benefits through improved operating performance, solid growth, product innovation, and improved efficiency.

The sector is also making an improved contribution to the real economy. The more diverse product range, more accessible, and offering better value to clients, should be helping those in the real economy to better manage risks. Products are offering a better value for money. Insurance assets are growing in size allowing insurers to become more relevant as institutional investors.

The insurance sector should continue its path to a full market driven profile over time. Consistent with observed experience in other jurisdictions, the liberalization process has a long way to go. Developments so far are in line with expectations but could be encouraged through continued efforts to ensure an appropriate environment that supports ongoing innovation and development.

As with all markets, the sector's development will be influenced by the operating environment, including the general economic conditions in Costa Rica, globally, as well as the trends in global reinsurance prices. Diligent supervision, sound preconditions for market development, and targeted interventions to support these preconditions, is expected to remain relevant.

Recommendations that arise from the assessment are limited as much of the future advantage can be expected to arise in any event without government or policy interference. That said, it would be useful for policymakers to consider that:

- The liberalization of compulsory automobile and occupational risk insurances will likely require specific attention from SUGESE, particularly regarding adequate statistics for pricing and

provisioning, and arrangements for the treatment of cases involving uninsured or unidentified motorists or employers.

- The expansion by the INS into new business lines and new jurisdictions should be progressed carefully and cautiously, and can benefit from learning the lessons of other entities that have tried and failed in similar endeavors.
- Continuing supervisory capacity development can be expected to be needed as an ongoing priority as the SUGESE staff continues to grow into their supervisory roles.

The initial phase of liberalization in the insurance sector has been positive but the complete benefits of the initiative, as they do in all countries, are not yet fully captured. As the process continues, as it can be expected to do, the consequent benefits of a more effective industry, providing for the needs of the real economy, and enhancing the well-being of all Costa Ricans will be realized.

Chapter 4. Telecommunications and the end of another monopoly⁴³

4.1 Introduction and summary

The CAFTA-DR agreement opened the door for private investments on the telecommunication sector. A new telecommunication law was required for the liberalized market, a new regulator, *Superintendencia de Telecomunicaciones* (SUTEL), needed to be established and developed its functionality, and the *Instituto Costarricense de Electricidad* (ICE), the existing monopoly provider, needed to adjust to the new environment. Until liberalization, the telecommunication sector was dominated by ICE, there was a large pending demand for mobile telephone services, prices for Internet access were very high making the service inaccessible for the majority of Costa Ricans, and the Sector was supply-constrained.

Even though market penetration was on the rise before liberalization, the market has showed extraordinary growth in access and price reductions. The forces of competition provided an abundant supply of services, prices for Internet access were reduced dramatically, and Costa Ricans have responded by subscribing massively to the new services. New entrants have been established and are actively competing with the ICE, which is responding to the competitive landscape with its own strategies. All indicators demonstrate that after sector liberalization Costa Rica is well positioned in comparison with Latin American countries of similar GDP/capita. Today consumers can buy a cell line instantly with not waiting as before. Finally, the telecommunication sector contribution to the GDP increased substantially. The Sector attracted large FDI flows, produced a large consumer surplus advantage from the reduction in prices and increased in quantities of Internet access and cellular lines, and made a large contribution to economic growth.

However, as in any liberalization of the Telecommunication Sector in any country, some issues remain. In Costa Rica, these issues are partly due to the fact that the Government still owns the largest telecommunications operator, which is not typical of the majority of Latin American countries. Four important challenges remain regarding tariffs, investment needs, availability of Spectrum for private investors, infrastructure sharing and municipal permits, and the *Fondo Nacional de Telecomunicaciones* (FONATEL).

This chapter presents a summary of the main legislatives changes, trends in access with international comparisons, and a discussion on prices and quality of services. Some conclusions and policy recommendations are included in the final section.

4.2 Legal and regulatory developments

As a result of CAFTA-DR, Costa Rica took the decision of liberalizing its telecommunication market. As per Annex 13 of CAFTA-DR,⁴⁴ Costa Rica committed to: (a) “Allow telecommunications services providers of another Party, on a non-discriminatory basis, to effectively compete to supply directly to the customer, through the technology of their choice, the following telecommunications services in its territory: (i) private network services, no later than January 1, 2006; (ii) Internet services, no later than January 1, 2006; and (iii) mobile wireless services, no later than January 1, 2007”; (b) The following regulatory principles: (i) Universal Service obligations that could not be regarded as anti-competitive; (ii) Establish and maintain a new Independent Regulatory Authority; (iii) Transparency for

⁴³ This chapter was prepared by Eloy Vidal (consultant).

⁴⁴ Annex 13 “Specific Commitments of Costa Rica on Telecommunications Services” of CAFTA-DR.

interconnection agreements, procedures for licensing or authorizations; (iv) Objective, timely, transparent and non-discriminatory procedures for allocation and use of limited resources, including frequencies, numbers and rights of way; (v) Non-discriminatory, cost-oriented, terms for interconnection among public telecommunication suppliers; (vi) Access on reasonable and nondiscriminatory terms to and use of public telecommunication networks; and (vii) Do not regulate Information Services suppliers; (c) Prevent any anti-competitive practice; (d) Provide reasonable and non-discriminatory access to submarine cable facilities in its territory; and (e) Allow public telecommunication services suppliers flexibility in the choice of technologies.

In 2008, the new telecommunications law provided the key mechanism for liberalization. The *Ley General de Telecomunicaciones* was gazzetted as law No. 8642 on June 30, 2008. The law ended the monopoly of ICE in the Telecommunications Sector and allowed the entry of private companies. The same law created a new Regulator, *Superintendencia de Telecomunicaciones* (SUTEL). SUTEL started operations on January 2009 to solve monopolistic practices by operators that would limit, reduce or eliminate competition,⁴⁵ set tariffs in the form of price caps to stimulate competition and efficiency, and regulate interconnection of operators' networks, based on cost oriented rates. The Law assigned to the Executive the planning and administration of the radio electric spectrum, and awarding of new frequency bands. Operators could gain access to the market through: (a) **Concessions**, for services that have commercial use and require the use of radio-electric spectrum, granted through public auction; (b) **Authorizations**, for commercial or private network services that do not require spectrum, granted through direct request to SUTEL; and (c) **Permits**, for non-commercial, official, navigation or emergency services, granted by the Executive through SUTEL. Finally, to continue the goal of universal access and reduce the digital divide, the law created the *Fondo Nacional de Telecomunicaciones* (FONATEL) to provide funds for priority projects. FONATEL is financed by fees from operators as determined by SUTEL,⁴⁶ fines, grants, and interest generated by its resources.

Spectrum, privacy and numbering Regulations were elaborated.⁴⁷ The *Autoridad Reguladora de los Servicios Públicos* (ARESEP) issued several specific regulations that defined the methodology for tariff setting. It established that SUTEL would initially define tariffs, until it found that there were sufficient conditions for effective competition in a specific market. In this case, operators would be free to set their own tariffs.⁴⁸ It specified that for the initial determination, SUTEL should use a price cap methodology based on Long Term Incremental Costs ("LRIC").⁴⁹ Since this Regulation was approved SUTEL has maintained all initial tariffs at the same level that were approved in 2006 by ARESEP.⁵⁰ SUTEL has not declared effective competition in any market yet. This decision would have an important impact on Operators as we shall see in the next section.

⁴⁵ See Articles 49 to 61 of the Telecommunication Law.

⁴⁶ The contribution should be within 1.5 percent and 3.0 percent of the operator gross revenues.

⁴⁷ *Reglamento a la Ley General de Telecomunicaciones*, No. 34765, *Plan Nacional de Atribucion de Frecuencias*, No. 35257, and its Reforms in 2010 (No. 35866) and 2011 (36754), *Reglamento sobre Medidas de Proteccion de la Privacidad de las Comunicaciones*, No. 35205, and *Plan Nacional de Numeracion*, No. 35187.

⁴⁸ The regulation confirms Article 50 of the Telecommunications Law that stipulates these tariff principles, and elaborates the methodology for setting tariffs.

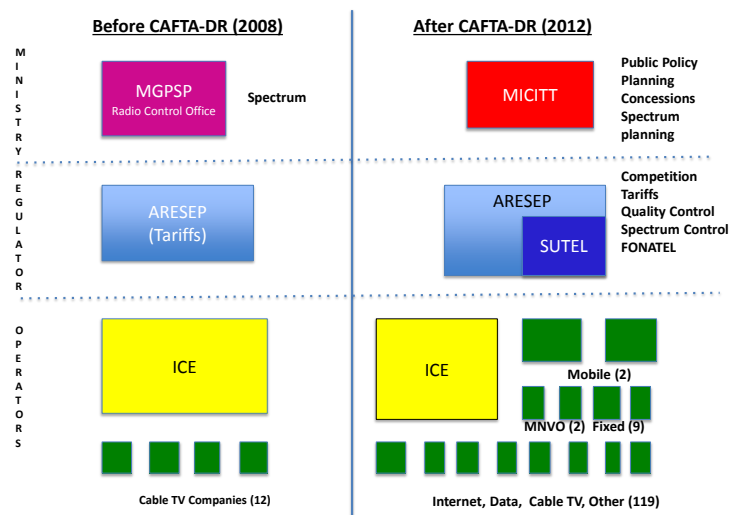
⁴⁹ For the calculation of LRIC, this Regulation indicated the formula that must be used and defined its main elements. In particular, the Rate of Return on Investment should not be lower than the national or international average on comparable markets. Comparable markets are defined using criteria such as: geographic extension, number of users, quantity of operators providing services, and average income of users.

⁵⁰ ARESEP tariff setting of 2006 is RRG-5957-2206 of Sept. 25, 2006. SUTEL Simplification of Tariffs eliminated some of the tariffs of the previous setting, but left most of the core tariffs intact: RCS-121-2012 of March 30, 2012.

The same telecommunications law also affected radio and television broadcastings as well as the radio electric spectrum. It modified the *Ley de Radio*⁵¹ and a transitory provision of the Law⁵² required public and private concessionaires of frequency bands to report to the Executive the use of each one of them. Then, the Executive could request them to return the frequency bands that needed to be reassigned. However, the Government has not completed this reassignment yet. Specifically, ICE still holds the largest share of the mobile frequency bands, giving the entity a competitive advantage.

In 2008, Congress approved another law changing important elements of the sector structure (see Figure 4-1). The *Ley de Fortalecimiento y Modernización de las Entidades Públicas del Sector Telecomunicaciones* (called the ICE law):⁵³ (a) defined MINAET (*Ministerio del Ambiente, Energía y Telecomunicaciones*) as the Sector's Head, by the addition of a new Vice Ministry of Telecommunications, in charge of formulating public policies, planning, and awarding concessions for the Sector, among other functions. The Chinchilla Administration later moved this Vice Ministry to MICITT (*Ministerio de Ciencia, Tecnología y Telecomunicaciones*), in January, 2013; and (b) modified ARESEP law⁵⁴, to add SUTEL as part of ARESEP.⁵⁵ In addition to the functions described above, SUTEL is in charge of supervising : (i) the use of the radio-electric spectrum; and (ii) the obligations and rights of the users and telecommunication operators. SUTEL's governance structure consists of 3 Council Members, who are appointed by ARESEP's Board of Directors, and approved by Congress, for 5 year-terms.⁵⁶

Figure 4-1 Sector structure before and after CAFTA-DR



Source: SUTEL (2013). MGSP is *Ministerio de Gobernación, Justicia y Seguridad Pública*; MNVO is Mobile Virtual Network Operator.

The ICE Law also eliminated some restrictions to allow it to compete against private companies in the telecommunications sector. It included the following provisions, among others: (a) allowed ICE to

⁵¹ Law No. 1758 of June 19, 1954. This Law regulates Radio and TV Broadcasting, and the radio electric spectrum. The Telecom Law changed the Ministry in charge of the Sector to MINAET.

⁵² *Transitorio IV* of the Telecommunications law.

⁵³ Law No. 8660, of August 13, 2008.

⁵⁴ Created by Law 7593 of August 9, 1996.

⁵⁵ Article 45 of ICE's Law.

⁵⁶ The initial members were appointed for 3, 4 and 5 years, with the intention to preserve the institutional memory of the entity, and de-link it with the electoral cycle (4 years).

form subsidiaries, national or international, or to form strategic alliances with private or public companies; (b) restricted concessions of fixed telephone service;⁵⁷ (c) removed the Government financial restrictions on ICE; (d) allowed ICE to increase its debt level up to 45 percent of its total assets; (e) specified new procurement procedures;⁵⁸ and (f) gave ICE’s Board authority to set its own human resources administration including setting salaries and benefits to staff. The authorization to ICE to form strategic alliances with private companies is especially important because these alliances could bring private companies capital, entrepreneurship and management to improve ICE’s capacity to compete in the telecommunications sector.

4.3 The entry of private providers of mobile-cellular services

Private providers for mobile services started operations in November 2011. After a public auction managed by SUTEL, the Government granted two concessions of frequency bands for mobile services in January 2011 to: (a) to *Empresa Claro Costa Rica Telecomunicaciones*⁵⁹ (Claro) and *Telefonica*⁶⁰ (Movistar) (see Table 4-1). These concessions included obligations to deploy the infrastructure, as indicated in Map 4-1, Coverage of Cellular Concessions. Table 4-2 shows the Criteria for Selecting Districts covered in Phases 1, 2 and 3 (Coverage, Population and Human Development Index (“IDH”). Companies had to roll out their networks in 12 months for the Metropolitan Area (Phase 1), 36 months for Phase 2, and 60 months for Phase 3. As can be seen in the Map, the majority of the country was included in Phase 3. The Districts not included have very low population density, are mountainous, or national reserves.

Table 4-1 Concessions for mobile telecommunication service (in US\$)

| Concessionaire | Price Paid | Band | Segment | Bandwidth, MHz |
|----------------|--------------|----------|---------|----------------|
| Claro | \$75 million | 1800 MHz | C | 2 X 5 |
| | | | D | 2 X 15 |
| | | 2100 MHz | C | 2 X 5 |
| | | | D | 2 X 10 |
| Movistar | \$95 million | 850 MHz | E | 2 X 5.3 |
| | | 1800 MHz | E | 2 X 10 |
| | | 2100 MHz | E | 2 X 10 MHz |

Source: As reported by SUTEL, www.sutel.go.cr

Claro and Movistar had delays in installing their systems due to the slow approval of tower building permits by the municipalities. Although this problem was partially solved on November 16, 2011 by the resolution of the Supreme Court,⁶¹ some municipalities delayed granting the permits arguing that they had to issue tower construction regulations first. For example, at the time of writing this report, Claro had not obtained permits from eight municipalities.⁶²

⁵⁷ The law specifies this service as “circuit-switched”, or “basic” service and limits this restriction to the Executive, as it authorizes Congress to give basic service concessions.

⁵⁸ The new procedures were intended to streamline the procurement process.

⁵⁹ A subsidiary of America Movil of Mexico, operates with the commercial name Claro

⁶⁰ A subsidiary of Telefonica of Spain, operates with the commercial name Movistar.

⁶¹ *Sala Constitucional de la Corte Suprema de Justicia (“Sala IV”)*, Resolution No. 015763 – 2011 of November 16, 2011. The Court rejected an appeal from a citizen against a decision of the Municipality of Goicoechea to grant a permit for tower construction in that Municipality, based, inter-alia, on the prevalence of public interest in the installation of telecommunications infrastructure over the entity’s interest.

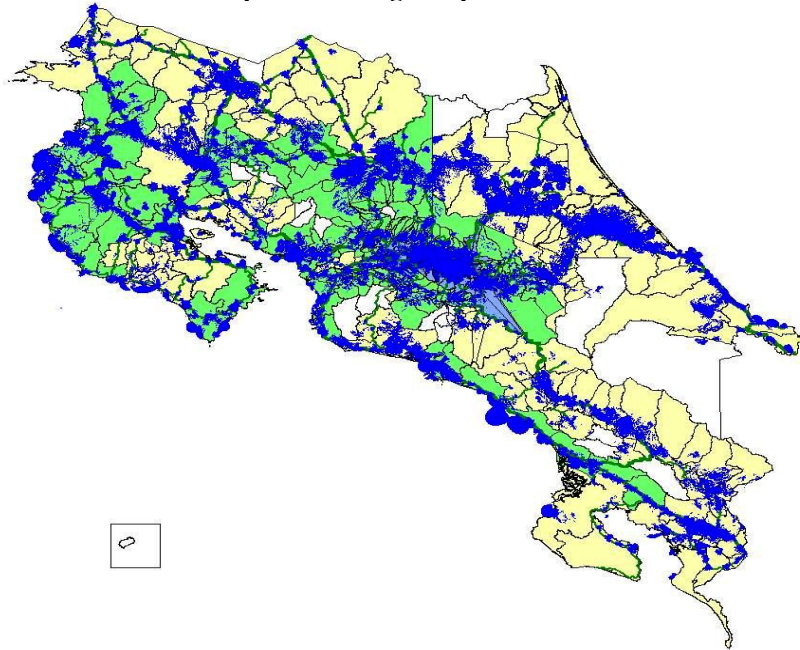
⁶² Source: Interview with Victor Garcia, Gerente Regulacion Claro, 8/14/2013

Table 4-2 Phases, Criteria for Selecting Districts for each Phase, Number of Districts and Roads Covered in Cellular Concessions in Costa Rica

| Phase | Months | Color in Map | Criteria for Selecting Districts | | | Number of Districts | Roads (P-Primary S-Secondary) |
|---------------------------|--------|--------------|----------------------------------|--------------------|-------------------------|---------------------|-------------------------------------|
| | | | Coverage by the Incumbent | Population | Human Development Index | | |
| 1 - GAM ⁶³ | 12 | | = Incumbent | >= GAM average | >= GAM average | 132 (28%) | GAM: P,S |
| 2 - Rest ⁶⁴ | 36 | | = Incumbent | >= Country Average | >= Rest Average | 185 (40%) | Rest: P |
| 3 - Rest | 60 | | = Incumbent | >= Country Average | All | 128 (27%) | Rest: S |
| 4- Not covered | | | | | | 21 (5%) | |
| High Signal ⁶⁵ | | | | | | 466 (100%) | |

Source: Annex A of SUTEL (2010).

Map 4-1 Coverage Map of Cellular



Due to the difficulties in obtaining construction permits to build their infrastructure, private mobile providers had to request an extension to complete Phase 1 of their roll out plans (see Table 4-2). SUTEL granted the extension through early February 2014. In spite of these difficulties, Claro and Movistar were able to expand their coverage to near 90 percent of the coverage of Phase 3.⁶⁶ The companies have installed masts in buildings, signs and other existing structures. They have even used

⁶³ GAM means Great Metropolitan Area, as defined by PRUGAM and includes districts in the San Jose, Cartago, Heredia and Alajuela Provinces.

⁶⁴ Rest of the Country

⁶⁵ Signal strength must be higher than -75 dBm in those areas.

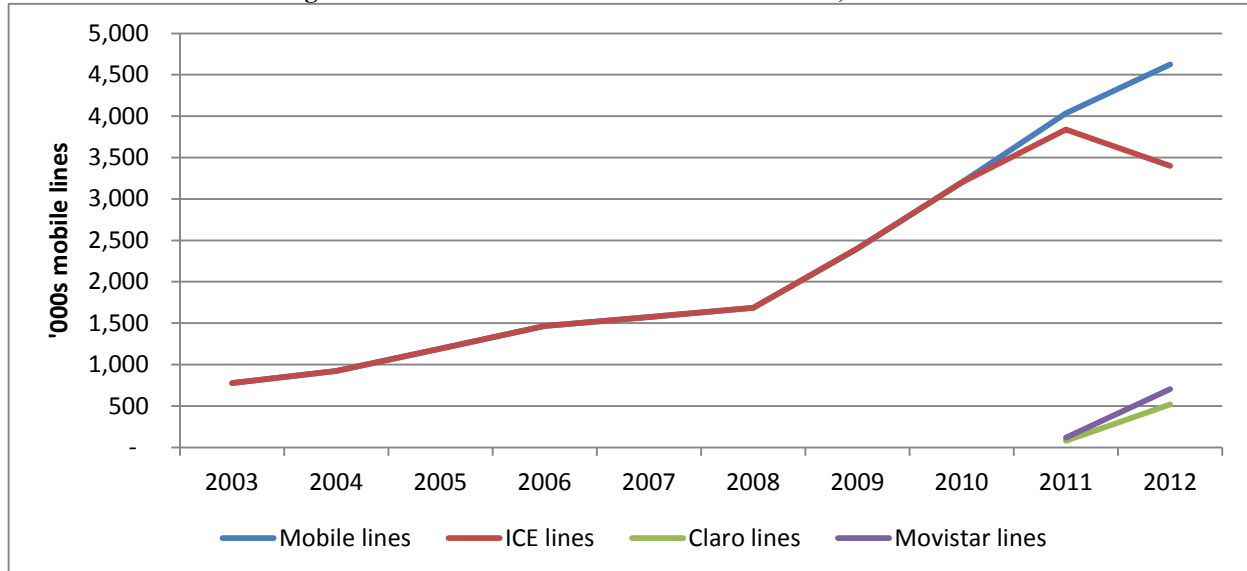
⁶⁶ Sources: Movistar: Interview with Juan Pablo Rivera, Gerente Regulacion, Telefonica de Costa Rica, 8/13/2013 and coverage map in www.telefonica.cr; Claro: Interview with Victor Garcia, Gerente Regulacion Claro, 8/14/2013 and coverage map in www.claro.cr.

portable installations instead of towers to provide coverage. These practices have resulted in extending the coverage area provided to their clients to almost a national level in a shorter period of time than originally agreed under their contracts. However, while these solutions solved the immediate need to provide service, the companies are concerned about meeting their coverage obligations, as specified in their contracts, in terms of signal strength, because these solutions do not seem to provide the same signal strength as towers of the specified height and location as per the original engineering designs.

4.4 Liberalization drives improvements in access to telecom services

Since 2009, the number of mobile-cellular lines increased markedly, as operators expanded their infrastructure to meet demand (see Figure 4-2). ICE launched its 3G network in anticipation of competition purchased with a system from Huawei.⁶⁷ This was the first nation-wide mobile system of modern technology that allowed users to connect to the Internet, and replaced several obsolete systems that ICE had in operation. Even though ICE significantly increased lines if compared with 2008, it lost market share of about one million lines to Claro and Movistar in 2012.

Figure 4-2 Mobile-cellular lines in Costa Rica, 2003-2012



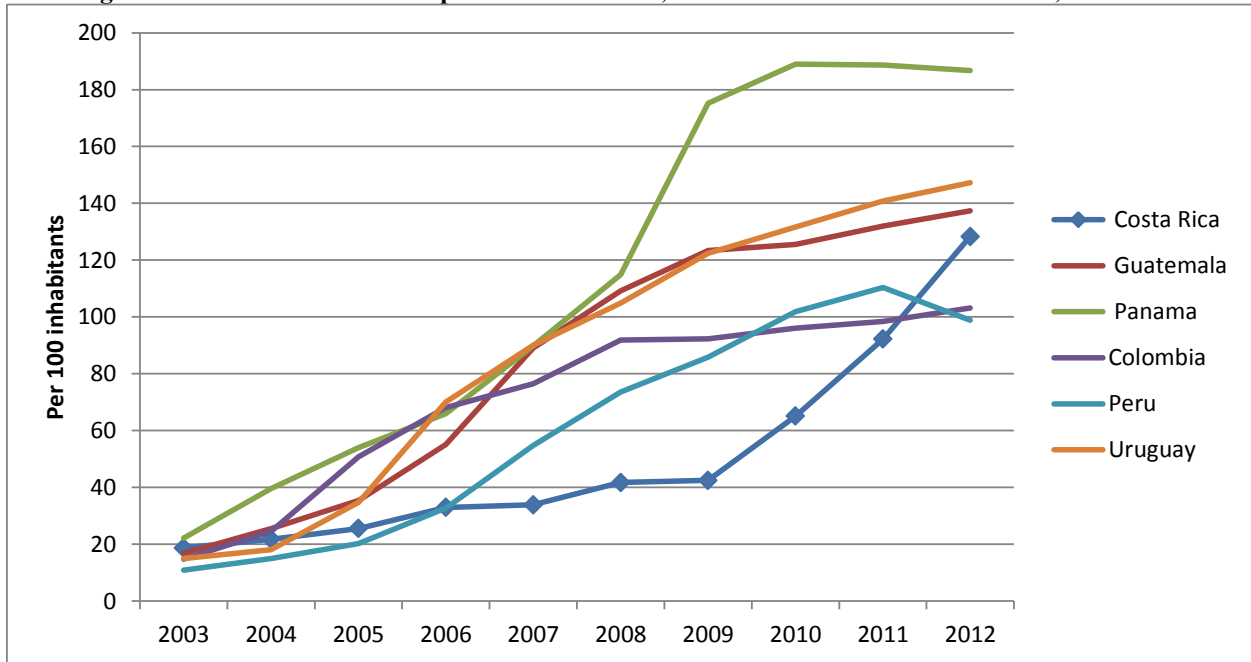
Source: Wireless Intelligence, 2013

Mobile-cellular penetration levels quickly catch up with other countries in the region. As operators expanded their coverage to meet unsatisfied demand for services, mobile-cellular penetration levels increased from 42 percent in 2008 to 116 percent in 2012. Costa Rica ranks favorably, with better penetration than Peru and Colombia, and is close to Uruguay and Guatemala.⁶⁸ Today consumers can buy a cell line instantly with not waiting as before. Before liberalization, the waiting list was long, and it took months to get a cellular line. This is a major achievement of sector liberalization due to CAFTA-DR that has benefited consumers and businesses in Costa Rica.

⁶⁷ Costa Rica entered late into the provision of 3G services, while most other countries in Latin America had started offering 3G services in the early 2000's. 3G refers to Third Generation systems, capable of providing voice and data communications at broadband speeds. 2G were the digital systems for voice and low data rates, while 1G were analog systems.

⁶⁸ The high value for Panama reveals that operators may have not removed inactive accounts from the database. This happens frequently as pre-paid customers switch from one operator to another, but the old line is still registered in the data base. A value of more than 100 percent indicates that most inhabitants have a line, since some users have more than one.

Figure 4-3 Mobile-cellular lines per 100 inhabitants, Costa Rica and selected countries, 2003-2012



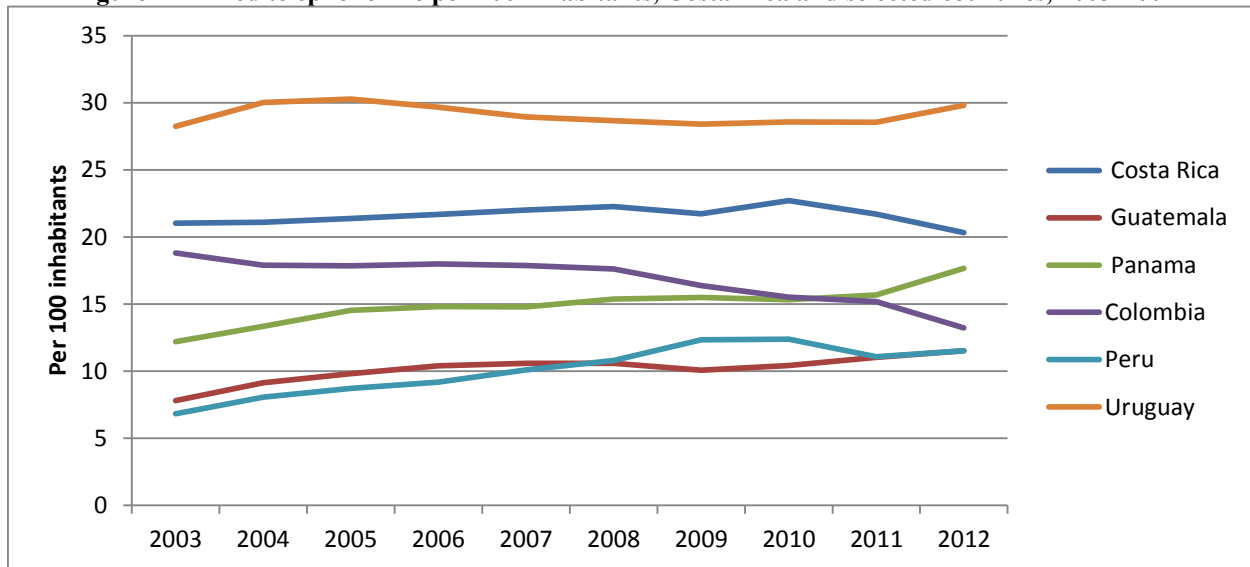
Source: Databank, World Bank (2013)

Fixed telephone services

Costa Rica continues to have a high penetration of fixed lines. This is the result of ICE’s investment in its universal service program during the 1970’s and 1980’s. However, starting in 2010, some users disconnected their fixed lines, reversing the growing trend of the past, due to: (i) mobile to fixed service substitution; and (ii) as more people have broadband Internet access they prefer use of VoIP⁶⁹ to call their friends and family for free. These trends are common in all countries (see Figure 4-4). The reduction in the number of lines in operation impacts ICE finances, which is the sole provider of fixed telephone services through the copper network, as revenues decreased while operating expenses continued to grow due to the labor intensive nature of the old copper network.

⁶⁹ Voice over Internet Protocol. It allows the user with an Internet connection to make telephone calls using services like Skype, Viber and others.

Figure 4-4 Fixed telephone line per 100 inhabitants, Costa Rica and selected countries, 2003-2012



Source: Costa Rica: Estado de la Nación for years 2003-2009 and SUTEL (2013) for years 2010-2012; Other Countries: Databank, World Bank, 2013

Fixed internet

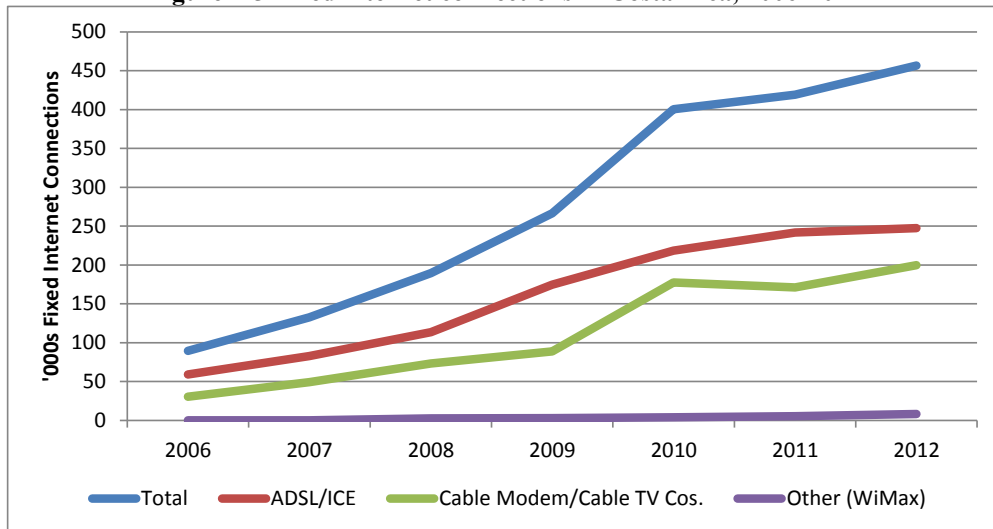
Fixed internet connections have also increased exponentially. (Figure 4-5). During the monopoly period, cable companies were forced to rent wholesale Internet access from RACSA,⁷⁰ an ICE subsidiary that, in turn, leased its bandwidth capacity from the international submarine cable providers. After liberalization, the ability to lease or purchase bandwidth directly from the international providers allowed the cable companies to reduce costs and increase capacity, freeing resources to invest in connecting more subscribers and offering higher connection speeds. ICE responded by increasing ADSL⁷¹ services on its extensive copper infrastructure. Even though ADSL is still the preferred access service, cable modem, provided by private cable companies has increased significantly. After 2010, the market started to show saturation, as the majority of households in urban areas were connected to the Internet

Penetration rates to fixed internet services improved markedly. When measured by penetration (lines per 100 inhabitants), Costa Rica had two percent penetration in 2006 and was the third of the group (after Panama and Uruguay). By 2012, penetration for fixed internet in Costa Rica increased to 9.5 percent, the second highest (Uruguay had 16.6 percent) surpassing Colombia, Panama and Peru.

⁷⁰ Radiografica Costarricense, S.A.

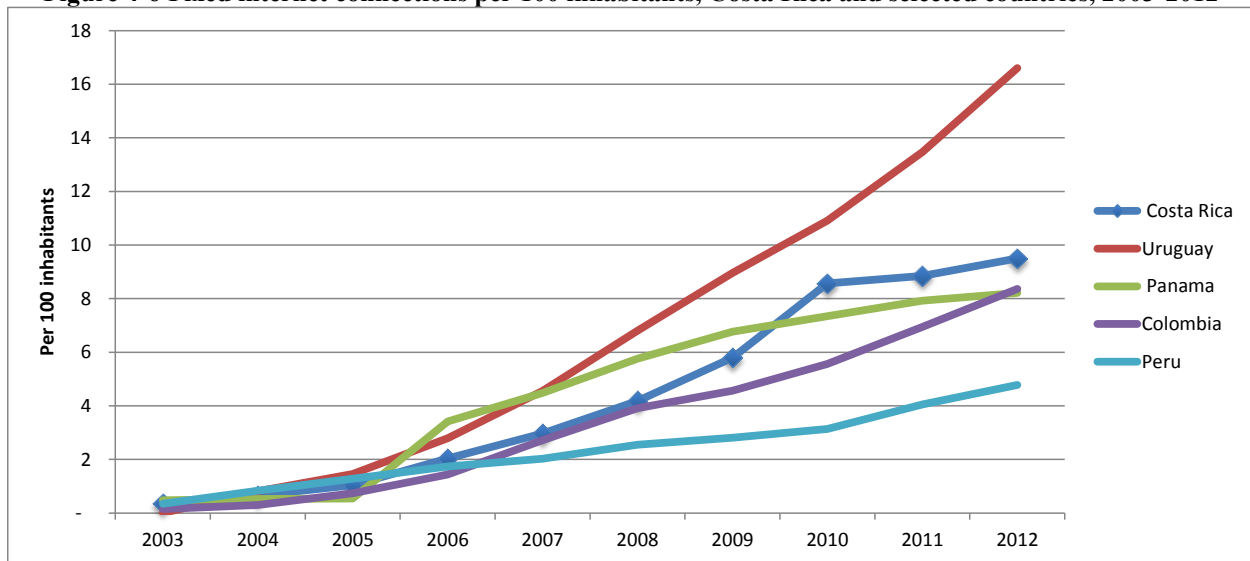
⁷¹ Asimetric Digital Subscriber Line, uses the copper wires bandwidth above the voice to provide Internet Access

Figure 4-5 Fixed internet connections in Costa Rica, 2006-2012



Source: CISCO Barómetro (2009) for years 2006-2009 and SUTEL (2013) for years 2010-2012.

Figure 4-6 Fixed internet connections per 100 inhabitants, Costa Rica and selected countries, 2003-2012



Source: Databank, World Bank, 2013

Mobile-broadband services

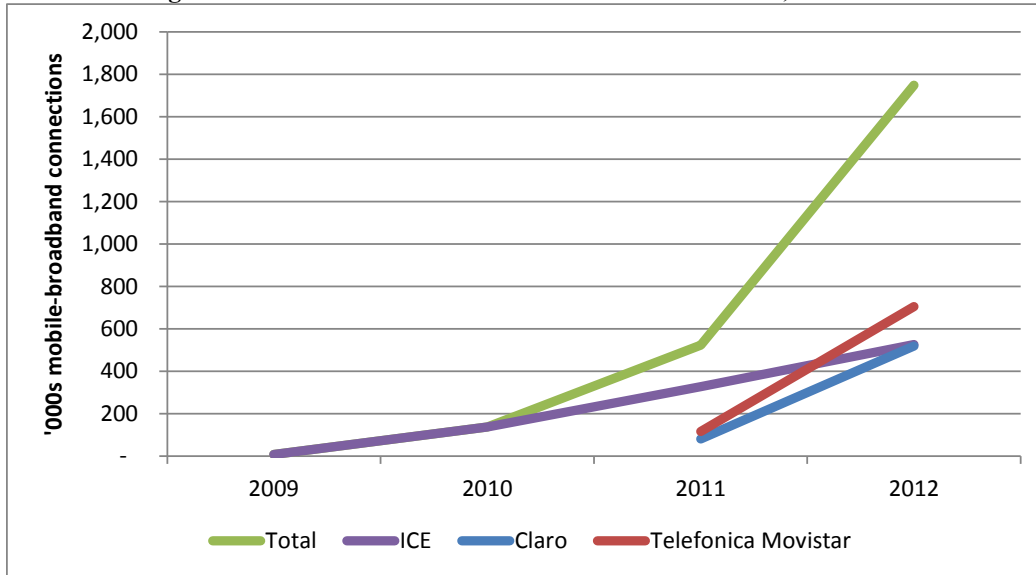
Mobile-broadband connections have quickly expanded, and private operations have captured a large part of the market. In anticipation of the competition, ICE introduced mobile broadband services in 2009.⁷² Claro and Movistar introduced mobile broadband with the opening of their commercial operations and have more subscribers than ICE. The three operators use 3G technology (HSPA+), allowing them to provide medium speed broadband access. A recent survey indicates that 61 percent of subscribers use Internet on their mobiles, tablets, or PCs. In the face of competition, ICE has become

⁷² El Financiero “Apatia en ventas de 3G”, December 20, 2009

more customer-oriented and introduced a variety of new plans and smartphones to the market, like the iPhone and Galaxy⁷³, among others.

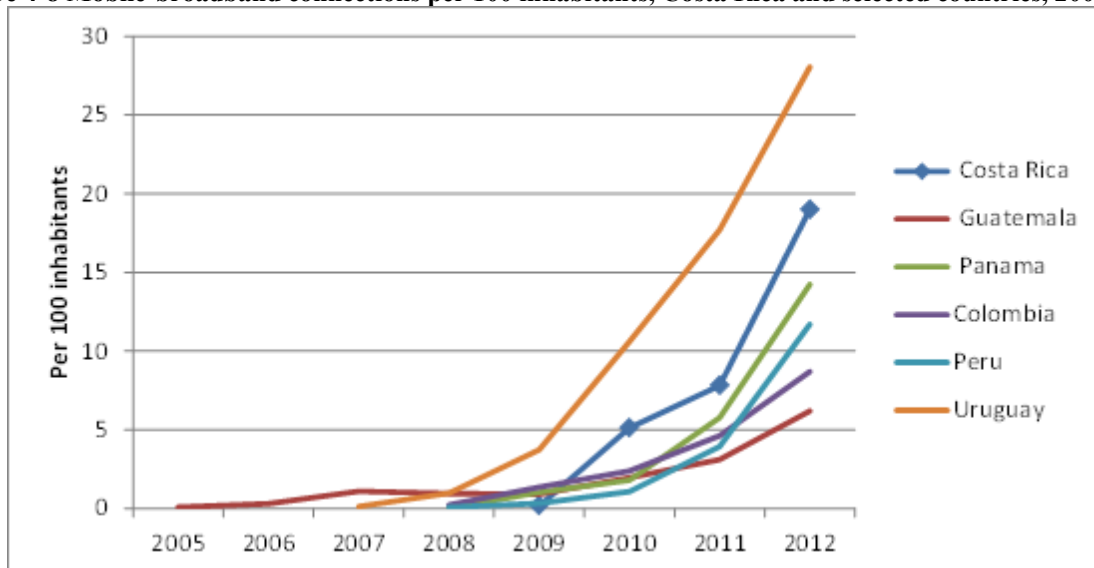
This rapid growth in connections moved Costa Rica ahead selected countries in Latin America in terms of penetration. As shown in Figure 4-8, in terms of mobile broadband lines per 100 inhabitants Costa Rica's penetration was at 0.17 percent in 2009, the lowest. However by 2012 it was the second highest, at 20 percent (Uruguay was 28 percent) as a result of the market growth in the years after CAFTA-DR was approved.

Figure 4-7 Mobile-broadband connections in Costa Rica, 2009-2012



Source: Wireless Intelligence, 2013

Figure 4-8 Mobile-broadband connections per 100 inhabitants, Costa Rica and selected countries, 2005-2012



Source: Wireless Intelligence, 2013. Data for Costa Rica comes from SUTEL (2013)

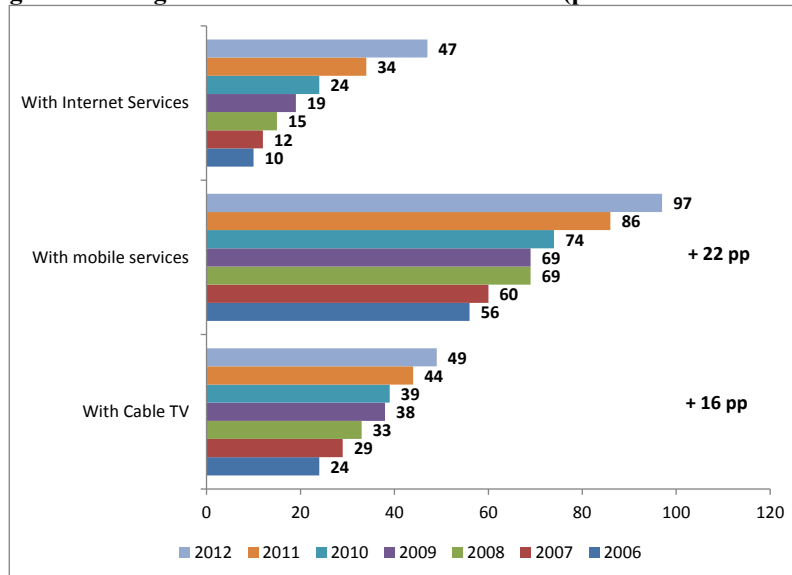
⁷³ The I-Phone was introduced on May 4, 2011 by ICE. Source: El Financiero “Apple domina en Costa Rica”, Sep. 1, 2011.

4.5 Household access to telecom services, prices, and quality of services

Costa Rica climbed five positions in the Global Information Technology Report 2013 of the World Economic Forum, to 53 of 144 countries in from 2012. This compares favorably with position 60 in 2007 (of 127 countries). In Latin America it was only surpassed by Chile (34), Barbados (39) Panama (46) and Uruguay (52). “Costa Rica, together with Panama, remains the leader in ICT uptake in Central America and climbs five positions in the rankings to 53rd place. Overall, the country has continued its efforts to develop its very affordable (6th) ICT infrastructure, especially in terms of improving its international Internet bandwidth capacity (40th) that, coupled with a well-performing educational system (21st), allows for an overall strong ICT readiness (33rd)”.

An increasing number of households are using telecom services in Costa Rica. As shown in Figure 4-9, the proportion households of with Internet access has increased from 10 percent in 2006 to 47 percent in 2013, which corresponds to a 30 percent annual average growth rate. In the same period 22 percent of households gained access to mobile phone services and 16 percent to cable TV. Although Cable TV has always been a service provided by private companies, liberalization of internet access increased competition among public and private companies that started offering bundled services like double play (TV and Internet) and triple play (Voice, TV and Internet).

Figure 4-9 Usage of telecom services in Costa Rica (percent of households)



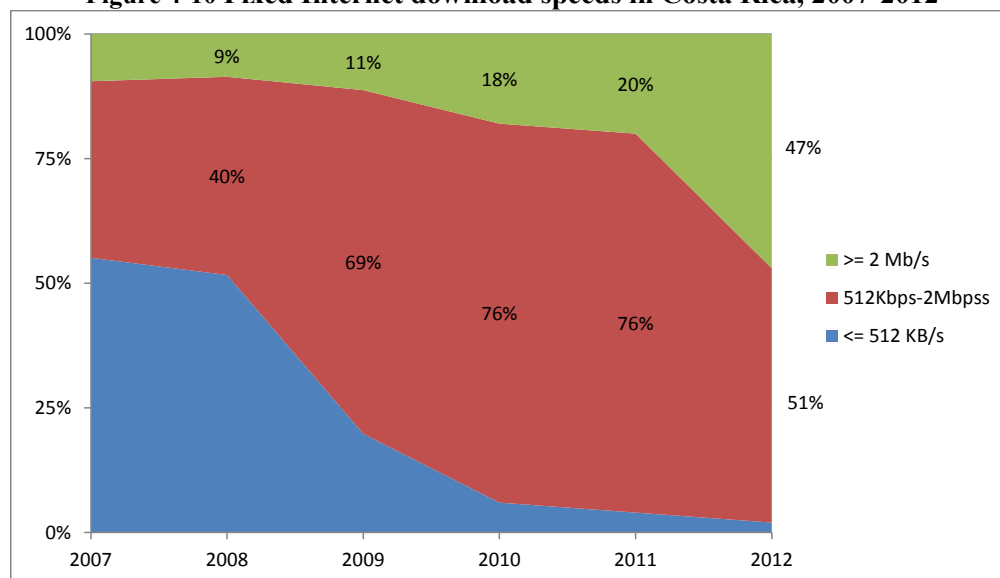
Source: As reported by MICIT (2013) using data from INEC.

Fixed Internet services

After liberalization, operators introduced higher speed internet access offers and bundled packages. Figure 4-10 shows that download speeds for fixed Internet access increased significantly in the period 2009 to 2012. In 2008 52 percent of the connections were less than 512 KB/s and in 2012 this service level dropped to only 2 percent. During the same period, faster connections of more than 2Mb/s increased from 9 percent to 53 percent. A higher access speed is essential for a better user experience and to enable the use of services like video streaming, videoconferencing and large file sharing. Although download speeds in Costa Rica are still below those of in OECD countries, the trend towards higher speeds is irreversible. Businesses, especially IT intensive business like IT Help desks, software

development centers, outsourcing, banking, and insurance companies, consulting and many IT-Enabled Business that rely on IT to do e-Commerce, or e-Services, need faster internet connections.

Figure 4-10 Fixed Internet download speeds in Costa Rica, 2007-2012



Source: CISCO - Barómetro (2009) and SUTEL (2013).

Internet prices in Costa are relatively low when compared to other countries (Figure 4-11). Before 2006, ICE offered low speed internet access at high prices that were too expensive for poor households.⁷⁴ In anticipation of the liberalization, ICE reduced prices for *Acelera* service in 2009. Even though price caps for Internet Access were set at relatively high values (Table 4-5), competition between ICE and Cable TV companies has reduced prices and increased speeds. Table 4-3 gives a sample of Internet prices for several services as of August 2013, indicating much lower prices than price caps fixed by ARESEP and SUTEL.

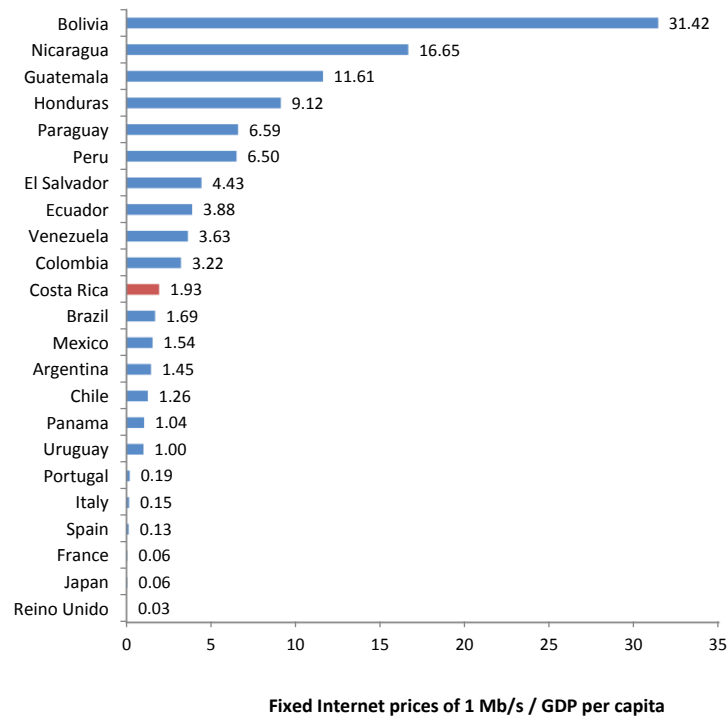
Table 4-3 Fixed Internet prices in Costa Rica, US\$ per month, August 2013

| Download speed | TIGO | Cable Tica | ICE-Kolbi | RACSA |
|----------------|-------|------------|-----------|-------|
| 1 MB/s | 16.95 | 16.50 | 18.90 | 30.00 |
| 2MB/s | 20.95 | 19.90 | 27.90 | 40.00 |
| 3 Mb/s | 29.95 | 28.90 | | |
| 4 Mb/s | 38.95 | | 48.90 | |
| 5 Mb/s | 49.95 | 48.60 | | |
| 10 Mb/s | 90.95 | 87.50 | 98.90 | |

Source: Information retrieved from the following websites: www.tigo.cr (Plan Hogar, Estandar, Plus, Deluxe, Pro, Extreme, Ultra), www.cabletica.com (Basico, Estandar, Plus, Silver, Gold), www.grupoice.com (Kolbi Hogar), and www.racsa.co.cr (WiMax Plus, Premium)

⁷⁴ Source: El Financiero: “Costa Rica con Internet banda ancha mas caro”, May 29, 2008. The article cites CAATEC Barometro CISCO results, quote from R. Monge.

Figure 4-11 Fixed Internet prices of 1 Mb/s, Selected Countries, 2012



Source: Rojas (2012)

Mobile services

Increased penetration in mobile services is explained by the introduction of a prepaid mobile-cellular service and low tariffs. Compared to other countries and other operators ICE was late to introduce prepaid services in April of 2008.⁷⁵ Claro and Movistar offered them from the start of their operations in November of 2011. Prepaid services are very popular in Latin America especially for the lower-income quintiles’ population, because they offer the user a means to control expenditures and purchase service in small incremental amounts. The other key driver for growth was the low prepaid tariffs set by ARESEP as indicated in Table 4-5. The prices are low when compared to other countries in Latin America, as shown in Figure 4-12. Peak rates are compared, only, without any discounts or promotions⁷⁶. Even though promotions are not reflected in the graph, it is fair to say that Costa Rica, in general, has one of the lowest rates in Latin America. As a result of the low rates and the convenience to control their expenditures, more users selected prepaid plans. While there were no prepaid users in 2007, 49 percent of users selected prepaid plans in 2010, and 79 percent in 2012.

Cellular tariffs continue to be fixed at the 2006 rates set by ARESEP in 2006 and because they have not been adjusted, they have lost value in real terms. These tariffs remain valid as price caps,⁷⁷ with the exception of the tariff for off-peak service. If the tariffs were adjusted by inflation, the “Equivalent Tariffs” in 2012 colones would have been substantially higher (See Table 4-5). All operators introduced

⁷⁵ ARESEP set the rates for prepaid service on March 31, 2008, by Resolution 8147-2008.

⁷⁶ Telecommunication Operators use many promotions like: double minutes, buy this package and get 50 percent more minutes, reduced rates at non-peak traffic hours, call your friends at lower rates, triple minutes ON NET, etc. Therefore Figure 4-12 may be misleading, because it does not include this promotions.

⁷⁷ SUTEL Resolution 615-2009 of December 18, 2009 established that the ARESEP rates “temporarily” applied to all operators.

several plans that are in line with the tariffs. In the majority of countries cellular tariffs are de-regulated, as operators compete with different plans and packages that offer phones and a number of minutes, SMS, MMS, and internet access. The consumer benefits with this multitude of offers because the best plan and the preferred phone can be selected. In this matter, Costa Rica is an exception. While SUTEL has the authority to de-regulate cellular rates, it has not indicated that will do so in the near future.

Table 4-4 Cellular Pre-Paid Rates (US\$)

| | <i>Pre-Paid Plan (US\$)</i> | | |
|--|-----------------------------|-----------|-----------|
| | <i>5</i> | <i>10</i> | <i>20</i> |
| Valid for (days) | 30 | 45 | 60 |
| Price, cents/min, Peak | 8.00 | 7.40 | 6.80 |
| Price, cents/min, Reduced (night and weekend rates) | 6.40 | 6.00 | 5.60 |
| Price, SMS, cents | 0.34 | 0.34 | 0.34 |

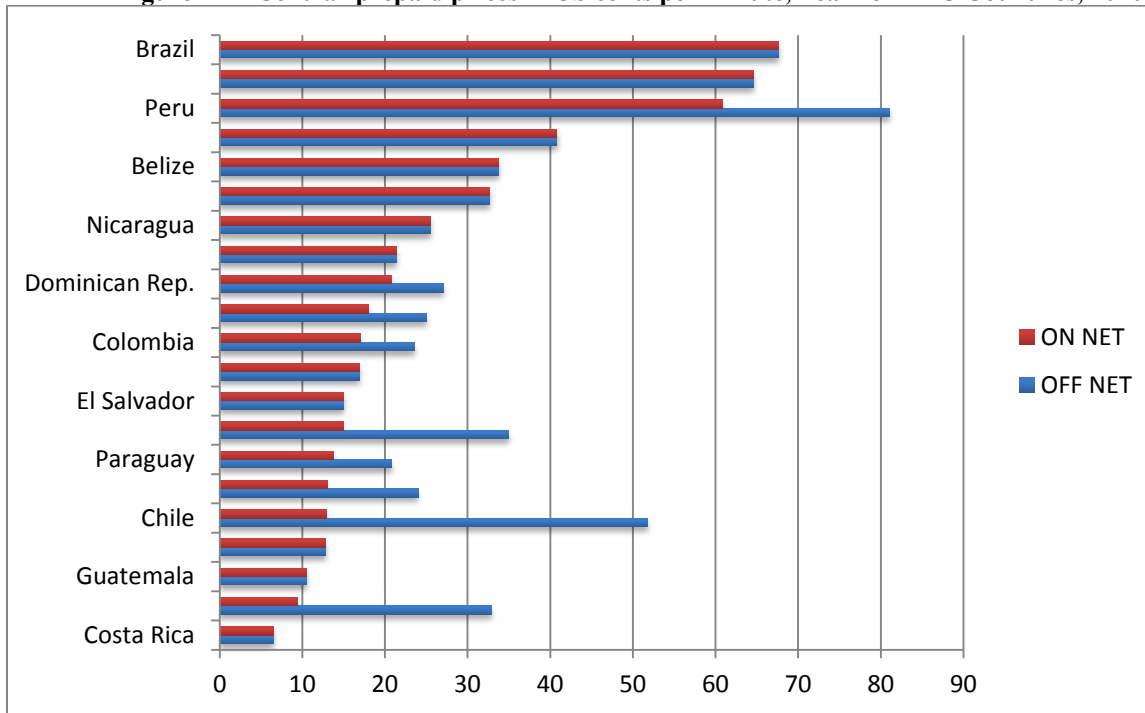
Source: ARESEP, Resolution 8147-2008. US\$1.00 = ₡500

Table 4-5: Tariffs, Prices and Equivalent Tariff for Selected Telecommunication Services

| | <i>Tariffs</i> | | <i>Prices</i> | | <i>Equivalent Tariff</i> |
|---|--------------------|-------------|--------------------|-------------|------------------------------|
| | <i>2006</i> | <i>2012</i> | <i>2006</i> | <i>2012</i> | |
| Cellular | <i>(2006 CRC)</i> | | <i>(2006 CRC)</i> | | <i>(2012 CRC)</i> |
| Prepaid plan CRC 2500 (US\$5), per minute | | 26.08 | | 26.08 | 49.41 |
| Postpaid, per month | 2,900 | 1,890.81 | 2,900 | 1,890.81 | 4,447.84 |
| Postpaid, peak, per minute | 30 | 19.56 | 30 | 19.56 | 46.01 |
| Internet access, per month (unlimited) | 3,500 | 2,282.01 | 3,500 | 2,282.01 | 5,368.08 |
| Fixed telephone | <i>(2006 CRC)</i> | | <i>(2006 CRC)</i> | | <i>(2012 CRC)</i> |
| Rent, residential, per month (includes 160 minutes) | 1,850 | 1,206.20 | 1,850 | 1,206.20 | 2,837.41 |
| Rent, commercial, per month (includes 160 minutes) | 2,150 | 1,401.81 | 2,150 | 1,401.81 | 3,297.53 |
| Calls, peak, per minute (from 7 AM to 7 PM) | 4.10 | 2.67 | 4.10 | 2.67 | 6.29 |
| Fixed Internet access, US\$/month | <i>(2006 US\$)</i> | | <i>(2006 US\$)</i> | | <i>(2012 US\$)</i> |
| 1 Mb/s | 38 | 33.40 | 38 | 14.50 | 43.23 |
| 2 Mb/s | 91 | 79.98 | 91 | 17.58 | 103.54 |

Source: ARESEP Resolution RRG—5957-2006 published in La Gaceta of Sep. 25, 2006 and for operators website for Fixed Internet access. Equivalent tariff is the tariff in 2012 currency that has the same real value as the tariff of 2006. Conversion to constant 2006 CRC was made using the Central Bank CPI July to July change for each year. Conversion to 2006 US\$ was done using the US Department of Labor Avg to Avg CPI change from year to year.

Figure 4-12 Cellular prepaid prices in US cents per minute, Peak for LAC Countries, 2010



Source: ITU World Indicators Database, International Telecommunication Union, Geneva, 2012.

These prices do not include promotions. Prepaid services are more expensive per minute (without promotions) when compared with post-paid (contract) services.

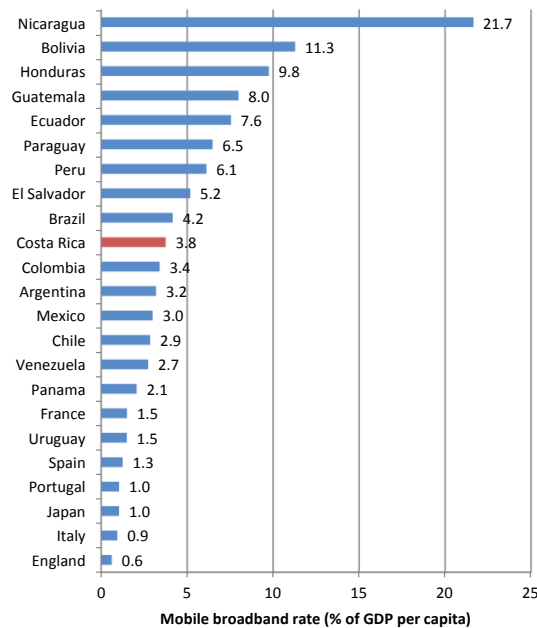
Mobile-broadband

An important factor of the high use of mobile-broadband has been the “flat rate” that ARESEP had imposed since the beginning (Table 4-5). This is a fixed rate, irrespective of the usage. Unfortunately, as it has happened in many countries, a small percentage of “heavy users” have congested the networks. Most operators worldwide charge rates per Kilobyte (or Megabyte) to deal with this issue. SUTEL modified the rate, charging a fee per kilobyte of use in October of 2012.⁷⁸ Operators started charging Colones 0.0076 (US\$ 0.00152 cents) per kilobyte of use in August of 2013. Costa Rican mobile broadband rates are in the middle to low end of the LAC countries (Figure 4-13).⁷⁹

⁷⁸ SUTEL, Resolution 295-2012 of October 3, 2012.

⁷⁹ Again, comparisons depend on the plan chose by the subscriber. Because of the variety of plans offered by each operator, the number of Mbytes included in the rate, and the number of operators, it is difficult to compare rates across countries.

Figure 4-13 Mobile broadband rates for selected countries (% of GDP per capita)



Source: Rojas, Edwin Fernando (2012). Estado de la banda ancha en Latinoamérica y el Caribe. Report of Observatorio Regional de Banda Ancha (ORBA).

Penetration in rural areas vs. urban areas: FONATEL.

As a result of the liberalization of the telecom sector, services were made available in most urban areas of Costa Rica. However, there are still rural areas and small towns that do not have access to the Internet. To provide services in those areas the Law created FONATEL. The Fund has raised US\$213 million from auction proceeds and operator’s fees.⁸⁰ Following the Law, FONATEL prepared a master plan that includes 4 programs: (1) *Comunidades no Conectadas*, to connect 2,731 communities that do not have access to the Internet at a cost of US\$155 million; (2) *Poblaciones Vulnerables*, to provide subsidies to 620,000 disabled or vulnerable people, at US\$50 million; (3) *Equipment for Schools* to reach 40,000 children, at US\$30 million; and (4) a yet to-be-determined program to impose Services Obligations on Telecommunication Operators.

Only the first program has been started. FONATEL recently awarded the first bid for “*Comunidades Conectadas*” in Siquirres. This is a very small “pilot” project, out of 3 designed for the Atlantic Region, which is the poorest. The Northern Region, with less poverty, will follow later this year. It also awarded the *La Roxana* Project in Pococi in September of 2013. The Southern Region that has fewer poor people will be completed in early 2014. Finally the Chorotega and Central Regions late scheduled for next year, as these regions have less poverty than other regions of the country. *Comunidades Conectadas* will provide internet access to: (a) all the population in these towns and villages with up to 2 MB/s connections; (b) schools, health centers, pre-school day care centers, and Community Access Centers with up to 4 MB/s each.

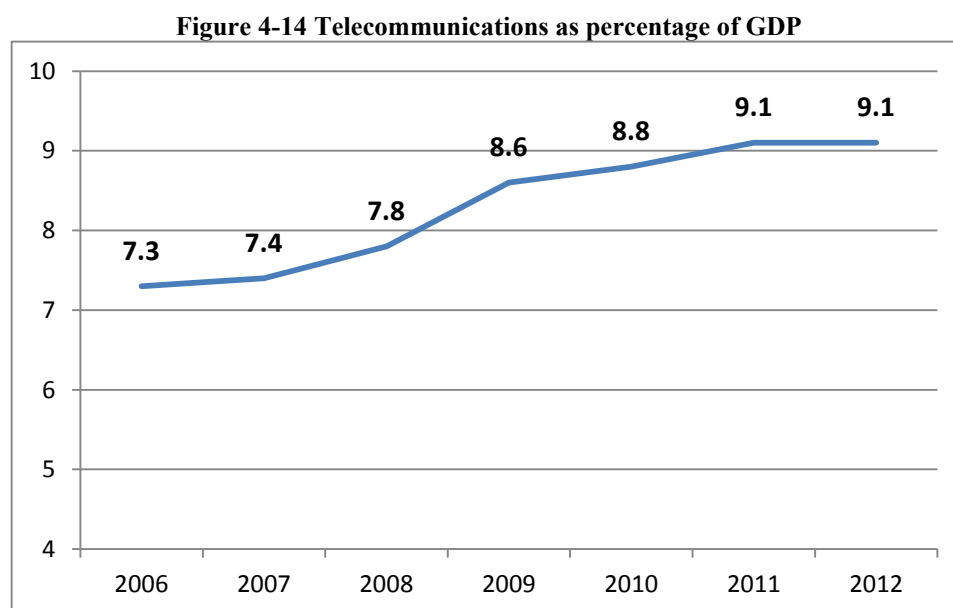
FONATEL program has been criticized because of the long time it has taken SUTEL to create a trust, and select and contract a management consulting firm to implement the program. It is also criticized for the lack of coordinated investments (e.g. computers in schools, health systems and applications, training of

⁸⁰ Source: “FONATEL”, presentation by Humberto Pineda, august 22, 2013.

teachers and other civil servants) for the Ministries of Education, Health, and others that FONATEL would not finance. SUTEL argues that the law only allowed a maximum of 1 percent of the resources to administer the program, limiting the number of FONATEL staff⁸¹, public procurement procedures in Costa Rica are slow and cumbersome, and the lack of cooperation from other Ministries.

4.6 The Contribution of the telecommunications sector to the Costa Rican economy

The telecommunications sector has become an engine of growth in Costa Rica. As a result of the CAFTA-DR, and sector liberalization, the telecommunications share of GDP increased from 7.3 percent in 2006 to 9.1 percent in 2012 (Figure 4-14). New private companies and ICE contributed more to the value added in telecommunications, as they provided more services and added new clients, generating new revenues. FDI in the telecommunication sector was US\$339 million in 2011 and US\$465 million in 2012 for the first time.⁸² This is good news.



Source: Costa Rica Central Bank - Departamento de Estadística Macroeconómica in “A 5 años de la apertura de las telecomunicaciones en Costa Rica, Viceministerio de Telecomunicaciones, 2013.

Consumer Surplus. As explained previously, Fixed Internet Access prices tumbled from 2008 to 2012. As prices decreased, many Costa Ricans who did not have service began to subscribe and the number of users skyrocketed. The consumer surplus for those consumers was calculated at US\$106.4 million in 2012 US\$ (Table 4-6).

Table 4-6 Estimation of Consumer Surplus for Internet Access Services

| Service | Lines | | Prices per month (2012 US\$) | | Consumer Surplus (2012 US\$) | |
|---------------|---------|---------|------------------------------|---------|------------------------------|---------------|
| | 2008 | 2012 | 2008 | 2012 | per month | per year |
| 512Kbps-1Mbps | 42,290 | 136,918 | \$40.52 | \$16.50 | \$1,136,362 | \$13,636,338 |
| 1Mbps-2Mbps | 44,593 | 200,812 | \$95.96 | \$24.40 | \$5,589,701 | \$67,076,417 |
| > 2Mbps | 18,788 | 50,203 | \$180.20 | \$43.90 | \$2,140,870 | \$25,690,436 |
| Total | 105,671 | 387,933 | | | \$8,866,933 | \$106,403,192 |

Source: SUTEL (2013) for lines and prices. Conversion to 2012 US\$ using CPI index for colones and US\$

⁸¹ At the time of this writing, FONATEL only had 4 staff, including the Director.

⁸² Source: COMEX

Economic Impact on Development. A positive correlation exists between a country's Information and Communication Technologies readiness and its economic competitiveness. Broadband plays an important role in this equation and is supported by numerous studies that show its effects on the economies of developed and emerging markets alike. While the studies vary in their estimates of broad band's impact on growth, the consensus seems to be that a 10 percent increase in broadband household penetration delivers a boost to a country's GDP that can range between 0.1 to 1.4 percent.⁸³

Using these parameters, the estimate economic impact on development for Costa Rica is 9.5 percent of GDP, applying the average of the McKinsey study range (from 1.3 percent to 17.7 percent of GDP), during the period from 2008 to 2012 (a penetration increase of 126 percent).

Social Benefits.⁸⁴ Broadband also provides social benefits as it connects consumers, businesses and governments and facilitates social interaction.⁸⁵ It delivers information to individuals and businesses, supports good governance and strengthens social capital. Information about the performance of governments and politicians makes governments more accountable and improves public services. Finally, broadband networks are increasingly used to deliver public services: distance education, financial services, health care, electronic voting, land registration, etc.

4.7 Conclusions and remaining Challenges

The main conclusion of this review is that the Telecommunications Sector liberalization brought by CAFTA-DR was an outstanding success. Before the CAFTA-DR, the Sector structure was that of a monopoly controlled by ICE. There was a large pending demand for mobile telephone services, prices for Internet access were very high making the service inaccessible for the majority of Costa Ricans, and the Sector was supply-constrained. After the reforms, the forces of competition provided an abundant supply, prices for Internet access were reduced dramatically, and Costa Ricans responded by subscribing massively to the new services. All indicators demonstrate that after sector liberalization Costa Rica is well positioned in comparison with Latin American countries of similar GDP/capita. Finally, the telecommunication sector contribution to the GDP increased substantially. The Sector attracted large FDI flows, produced a large consumer surplus advantage from the reduction in prices and increases in quantities of Internet access and cellular lines, and made a large contribution to economic growth.

However, as in any liberalization of the Telecommunication Sector in any country, some issues remain. In Costa Rica, these issues are partly due to the fact that the Government still owns the largest telecommunications operator, which is not typical of the majority of Latin American countries. Four important challenges remain regarding tariffs, management of Spectrum, infrastructure sharing and municipal permits, and universal access and FONTEL.

⁸³ Buttkeireit, S., Enriquez, L., Grijpink, F., Moraje, S., Torfs, W., Vaheri-Delmuelle, T. "Mobile Broadband for the Masses: regulatory levers to make it happen", McKinsey&Company, 2009, on www.mckinsey.com. A World Bank study found that every 10 percentage point increase in broadband penetration accelerates economic growth by 1.38 percentage points for middle-income countries. Source: Quiang, Christine, Rosotto, Carlo and Kimura, Kaoru, "Economic impact of Broadband" in "Information and Communications for Development 2009: Extending Reach and Increasing Impact", pp. 35-50, World Bank, Washington D.C.

⁸⁴ From "Building Broadband- strategies and policies for the developing world", Kim, Y., Kelly, T., Raja, S., The World Bank, Washington D.C. ,2010.

⁸⁵ "Broadband and the Economy" OECD, 2009, from www.oecd.org/dataoecd/62/7/40781696.pdf

Tariffs, investments and sustainability

SUTEL established the initial price caps for cellular services equal to existing tariffs at the time of liberalization. This means that ICE tariffs were used as the basis of the price cap levels. This initial tariff setting may have had a negative impact on the financial performance of the new cellular private companies, because: (a) unlike its competitors ICE did not pay for its use of spectrum and its tariffs did not reflect this cost; (b) ICE had depreciated assets, like towers, transmission facilities, and buildings, as opposed to the new entrants that had to build every element of their networks from scratch; and (c) interconnection rates may have given ICE competitive advantage due to the fact that, initially, the majority of the traffic of new entrants' lines was to and from ICE's subscribers, forcing the new entrants to pay for interconnection to ICE, while the majority of ICE's traffic was confined to its own network.

Low price caps on cellular rates restricted investment, because private companies need profits to invest in new technologies, such as 4G LTE, to update the network and provide faster service to users. Therefore, these lower rates are detrimental to promoting investment in the Sector. In the majority of Latin American countries and in the world in general, Governments do not regulate cellular rates, due to the competitive nature of these markets, where 3 or more players are actively providing services in a leveled playing field. In Costa Rica, there are 3 mobile telecommunication operators and 2 mobile virtual operators (MNVOs), for a total of 5 operators. In many countries, as well as in Costa Rica, operators compete by offering different plans of minutes of voice, SMS, and megabytes of internet downloads per month. They offer discounts for on-net, weekends and non-peak hour calls and many other alternatives. The consumer benefits from a wide choice of plans and services.

Article 50 of the Telecommunication Law gave SUTEL the power to declare whether a specific market is competitive. In a competitive market SUTEL would no longer regulate rates. As a solution to the current challenge, SUTEL should consider exercising its right to declare this market competitive and end regulation of cellular tariffs.

Private operators do not have enough Spectrum

Spectrum bands are critical for the deployment of mobile telecommunication services. As operators deploy new and modern systems, to provide faster access to the users, more Spectrum is needed. Therefore, the timely award of frequency bands in the quantity and quality⁸⁶ required is essential for development of modern mobile services.

Today, the majority of countries in Asia, North America and Europe have awarded frequency bands for 4G LTE, that provides higher speed internet access. As a result operators have deployed their networks and are actively providing this important service to customers. In Latin America, several countries have already awarded bands for 4G and operators are rolling out the service.

Mobile services in Costa Rica are 3G, which is the previous generation of mobile service. In order to roll out 4G, especially LTE advanced, operators will need additional spectrum. However, when Costa Rica liberalized the Telecommunication Sector, ICE was the only telecommunication operator. Because of that, Government had assigned 78 percent of mobile spectrum available to ICE⁸⁷. Therefore, on SUTEL recommendation, MINAET decided to auction 3 new concessions as explained above. Only 2 were granted, to Claro and Movistar. There were no bidders for the other concession. In addition, Claro does not have lower frequencies, which is a technological and cost disadvantage in comparison with the

⁸⁶ Quality refers to the fact that these frequencies are not in use by other operators.

⁸⁷ *Informe Tecnico sobre el Uso y Asignacion del Espectro Radioelectrico en Costa Rica*, SUTEL, May 15, 2009

other two operators particularly in the provision of services in rural areas⁸⁸. SUTEL also recommended to award frequencies in 900 MHz Band. This Band is occupied by narrow band point-to point-UHF links that can easily migrate to other frequencies. In addition, ICE holds the majority of the 2.5 GHz Band that International Telecommunication Union recommends for 4G use⁸⁹. ICE plans to roll out LTE in this band in 2014. Another option is using the 700 MHz “digital dividend” Band, derived from the transition from analog to digital TV⁹⁰. However, MICIT has announced that this transition will not occur until December 2017. As explained above, there are many options. However, time is of the essence, because the sooner operators roll out 4G services, the higher benefits for consumers and businesses.

Infrastructure sharing and municipal permits

As explained in previous section, when Claro and Telefonica started building their networks, they were delayed due to the slow process of obtaining construction permits from Municipalities. Sala IV decision and recent loss of a court case by several municipalities⁹¹ has given hope that this problem will be solved soon. However, as operators roll out 4G in the future, they will probably need to build more towers, and they may encounter delays again. Also, fixed line operators and Cable TV companies need to use ducts and poles to lay fiber. Therefore, this issue has to be solved. One option is to enforce infrastructure sharing as stated in the Law.⁹² The recent case of TIGO against JASEC was solved favorably, as SUTEL forced JASEC to rent its poles to the company. This precedent may help solve future disputes between new entrants and existing operators over towers, buildings, poles or ducts sharing, as these elements of the network become critical to deploy new networks.

Universal service and FONATEL

FONATEL is finally initiating the program to invest the Universal Service fund resources to extend service to un-connected communities, schools, health centers, day care centers and other public community centers in rural areas of Costa Rica. However, it has taken a long time, partly due to the lengthy Government procedures established by law.

The coordination between FONATEL and the Ministries of Education, Health, and others has not been very effective, and as a result of this problem the FONATEL only funded internet access, leaving to the Ministries the financing of computers, local area networks, and training of students, teachers, vulnerable population and government officials. This may result either in an ineffective use of the facilities, or delays in the use.

⁸⁸ Lower frequencies, in the 700, 800 and 900 MHz Bands offer 4 times the area of coverage for the same emitter power than high frequencies (1800, 1900, 2100 and 2500 MHz Bands) and are useful for rural deployments, as less number of cell sites (towers) are needed to roll out the network.

⁸⁹ ITU approved the use of the 2,500 to 2,690 MHz Band for mobile broadband, the Band is called “IMT Extension” and was recommended in WRC 2000

⁹⁰ A Digital TV standard definition channel uses about one fourth of the spectrum of an Analog TV channel.

⁹¹ La Nación, Aug. 20, 2013 “Tribunal Condena a Municipios por Restriccion a torres celulares” relates the case of Alta Vista Towers S.A. Costa Pacifico Torres Ltda and Claro against the Municipalities of Montes de Oca and Curridabat.

⁹² Articles 52 and 59 of the Telecommunication Law.

Chapter 5. Intellectual Property Rights in CAFTA-DR and its linkage to Pharmaceuticals in Costa Rica⁹³

5.1 Introduction

The CAFTA-DR's chapter on intellectual property rights (IP) was polemic due to its potential implications for the pharmaceutical industry. The local generic industry argued that IP provisions were going to prevent the marketing approval of generic medicines and grant additional exclusive marketing rights by prohibiting drug regulatory agencies to use original pharmaceutical test data for the registration of generic medicines. In their opinion, CAFTA-DR was going to severely restrict or block generic competition. The strongest position against IP rules, stated that with these provisions, it would become economically unsustainable and legally impossible for the country's social security program, *Caja Costarricense de Seguro Social* (CCSS), to ensure universal coverage and access to medicines for the population in the same manner that it had done before the CAFTA-DR, given that the prices of medicines were going to increase as a result of the agreement. There was a group that believed that the IP provisions in CAFTA-DR would encourage innovative medicines to enter the market.

This chapter assesses the IP provisions within CAFTA-DR related to pharmaceutical and whether those provisions could have any effect on medicines purchases by the CCSS. Even though it does not analyze the effect on prices resulting from the IP provisions, the analysis shows that CAFTA-DR includes provisions that allow access to low cost pharmaceuticals. The number of medicines that have some sort of IP protection is very small, including 4 pharmaceutical products (or 2 active ingredients) with patent linkages and 39 (or 30 active ingredients) with protection of test data during 2009-2012. Only one product with data protection has been added to the CCSS' Official Medicines List (Tenofovir Disoproxil Fumarate). Furthermore, for the CCSS, the share of expenditures devoted to medicines has averaged 8 percent during 2000-2012, suggesting that IP provisions have not impacted medicine costs.

5.2 Intellectual property regulations for pharmaceuticals in international trade treaties

Costa Rica's regulatory framework on IP for pharmaceuticals has been shaped by TRIPS and CAFTA-DR. Since 1996, Costa Rica is a signatory to the World Trade Organization Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), which provided the baseline for intellectual property protection for all WTO member countries. Costa Rica also adopted, along with all other WTO members, the 2001 Doha Declaration on TRIPS and Public Health, which clarified several TRIPS provisions regarding the flexibilities contained in the agreement, for instance it states that each Member has the right to grant compulsory licenses and the freedom to determine the grounds upon which such licenses are granted. It also clarifies that each member country is free to establish its own regime of exhaustion of intellectual property rights without challenge. Finally, when CAFTA-DR came into force in January 2009, it introduced additional regulations that affect IP provisions applicable to the pharmaceuticals market.

There are several provisions in TRIPS and CAFTA-DR that are related to pharmaceuticals, which guarantee that there is no real danger to Costa Rica's ability to access low-cost medicines. Based on these provisions, Costa Rica approved several regulations to ensure the implementation of agreements on

⁹³ This chapter was written by Alejandra Castro, consultant.

IP and access to pharmaceuticals. For example, compulsory licensing exceptions, parallel importations, and the *Bolar* provision, which are not restricted by CAFTA-DR, are a significant guarantee of access to pharmaceuticals in line with international standards. The most relevant provisions in CAFTA-DR relate to patent protection systems, new chemical entity, the *Bolar* provision exception, patent term restoration, patent linkages, compulsory licensing, parallel importations, and data exclusivity. In particular:

- **Patent protection systems.**⁹⁴ Both TRIPS and CAFTA-DR required countries to create national patent protection regimes to issue patent licenses for inventions. The patent protection will last for 20 years from the date the patent application was filed. TRIPS defines what is considered an invention and details the kind of enforcement regime that countries must have, including civil and administrative procedures and remedies, provisional measures, border measures, and criminal procedures. CAFTA-DR does not prohibit the use of importation of pharmaceuticals via parallel importation.⁹⁵ Moreover, CAFTA-DR does not force countries to regulate on second-use patents.⁹⁶
- **New chemical entity or new product.**⁹⁷ CAFTA-DR defines a new chemical entity or new product by their novelty in the market in question. The implementation rules in Costa Rica limited the definition of new pharmaceutical products and new agricultural chemical entities, which resulted in excluding from this protection uses or indications, changes in the route of administration, dosage, dosage form or in the formulation of a chemical entity; as well as products which constitute combinations of chemical entities previously registered in the country. This definition includes a big limitation on the amount of drugs that could receive test data exclusivity protection in the country.
- **Test data exclusivity.**⁹⁸ One of the most controversial aspects of the present IP regulatory regime is the regulation of originator undisclosed information, including test data (*i.e.*, information that should be kept secret). CAFTA-DR⁹⁹ confers non-disclosure rights of use for clinical information for a period of five years for pharmaceuticals, and ten years for agricultural chemicals after the product is approved in the country. As a result, unless generic drug manufacturers generate this test data through their own means, they are forced to delay the marketing of the product, since without this information they cannot prove that the products are safe and effective.

⁹⁴ Patents provide the patent owner with the legal means to prevent others from making, using, or selling the new invention for a limited period of time (20 years), subject to a number of exceptions.

⁹⁵ Parallel importation allows for the importation of a patented product that has been approved in a country's national market, as well as other markets abroad, but is sold for a lower price in another country. This is an important provision to ensure access to affordably-priced medicines. Article 6 of TRIPS allows countries to determine their own rules on parallel importation.

⁹⁶ Second use patents whether they are a result of a new registration or as a result of new associated claims (the discovery of new uses) are not recognized in Costa Rica.

⁹⁷ Article 8 of the Costa Rican Undisclosed Information Law states that: "*A new product*" means one which does not contain a chemical entity that has been previously approved in Costa Rica. "*Chemical entity*" means the functional group of the active principle which is responsible for the biocidal, physiological or pharmacological action. All polymorphs, isomers and other derivatives with parts joined to the chemical whole of which it is composed such as ester, ether, salt, including salt with hydrogen or coordinated unions, complex or otherwise, shall be defined as a single chemical entity."

Executive Decree N° 34927-J-COMEX-S-MAG, Undisclosed Information Law Regulations in article 4 defines it as "a pharmaceutical product that does not contain a chemical entity in the product formula that already has a regulatory approval in Costa Rica. It will not be considered a new chemical entity if those entities include new uses or indications, changes in the administration route, dosage, dosage form or formulation of a chemical entity or those products constituting combinations of chemical entities previously registered in the country."

⁹⁸ Test data is defined as the clinical information generated by companies that have investment in research and development of new chemical and agro-chemical entities, with the purpose of demonstrating its efficacy and safety.

⁹⁹ See Article 15.10 of CAFTA-DR.

- **Bolar provision exception.** By preserving the *Bolar* provision allowed under TRIPS,¹⁰⁰ CAFTA-DR gave the generic medicine producers a victory. The *Bolar* provision in CAFTA-DR¹⁰¹ is a limited exception to patent rights that enables companies to develop a generic product in order to obtain marketing approval and then enter the market as soon as the patent has expired. It sends a clear signal that third persons using IP material will be able to generate data for the creation of information that will be used to support market approval for a product (whether a pharmaceutical or agricultural chemical product).

- **Patent term restoration.** Under CAFTA-DR, the period of protection could be extended beyond 20 years if there have been delays in granting the patent license or analyzing the regulatory approval.¹⁰² With the implementation rules, Costa Rica limited to a maximum of 18 months any extension of the duration of the patent protection to compensate for procedural delays (either in granting patents, or in securing marketing approval for pharmaceuticals). The patent term restoration will apply in the following cases:
 - Delays of five years or more by the Industrial Property Registry from the date of filing of the patent,
 - Delays of three years or more by the Industrial Property Registry from the application of the substantive examination, or
 - Delays three years or more by the Health Ministry in authorizing the commercialization of pharmaceutical products from the date of filing marketing approval of the drug product in the country.

- **Patent linkages.**¹⁰³ CAFTA-DR introduces the obligation of the regulatory authorities to prevent the registration and marketing of a generic product when a patent that covers the product exists. However, its implementation rules in Costa Rica do not allow the regulatory authority to reject a generic approval procedure based on patent linkage, and therefore the patent titleholder is forced to take further actions in court rather than in an administrative/regulatory level.

- **Compulsory licensing.**¹⁰⁴ One of the most important achievements of the CAFTA-DR negotiation in terms of patent protection and access to pharmaceuticals was in preserving the compulsory licensing provisions and exceptions under TRIPS as well as in those in regulations of the Costa Rican Patent Law. In order to obtain a compulsory license exception the following must be analyzed:
 - If there have been unsuccessful attempts to obtain a voluntary license from the patent holder under reasonable terms and conditions and within a reasonable timeframe. This condition may be waived in the case of a national emergency.
 - If there are adequate payments made according to the circumstances appropriate for each case.
 - The decisions to apply this exception are subject to judicial review or another independent review by a superior and independent authority.

¹⁰⁰ See TRIPS Article 30.

¹⁰¹ See Article 15.9.5 of CAFTA-DR.

¹⁰² See Article 15.9(6) of CAFTA-DR.

¹⁰³ Patent linkage refers to a system where drugs covered by a patent are linked before the regulatory authority with the patent for patent enforcement purposes to prevent generic approval to sell the drug if the drug is covered by a patent.

¹⁰⁴ Through compulsory licensing, a government temporarily overrides a patent in the public interest and negotiates a better price for the medication or seeks the approval for licensing for production of generic versions of a patent product, which are generally at a lower cost.

- **Parallel imports.** As under TRIPS, CAFTA-DR allows countries to determine their own rules on parallel imports, allowing countries to choose from which market, and which prices, they will purchase pharmaceuticals. Parallel importation allows for the importation of a patented product that has been approved in a country's national market, as well as other markets abroad, but is sold for a lower price in such other markets. Thus, parallel importations provide access to affordably-priced medicines.

The provisions in TRIPS and CAFTA-DR could have affected producers of generic drugs in a narrow set of situations. One situation could have occurred if generic manufacturers were producing pharmaceuticals in violation of patents that have not expired. In this case, they would have contravened the IP or the purchase regimes in place. Another situation could emerge as the generic manufacturers need to wait until the patent term has elapsed to sell their products. But this condition existed under TRIPS, before CAFTA-DR entered into effect. Another case in which provisions could have affected producers or generic drugs is if the data protection for five years had required that manufacturers to make reasonable efforts to invest in R&D to generate their own information to get a commercialization permit or wait until the five year period expires. But as mentioned earlier, the implementation rules of CAFTA-DR limited the definition of new products and new chemical entities so this situation has not occurred.

CAFTA-DR may also affect some innovative companies due to the limited definition of what is considered a new pharmaceutical product. This means that their rights to exercise exclusive dominion over their test data will be restricted when they register certain medicines. CAFTA-DR does not protect test data that has entered the public domain and test data that contains chemical entities that have already been registered (for example, a product that contains a combination of a new chemical product and one that was already registered would not classify for protection); even if the final product is innovative itself.

5.3 Data protection, new chemical entities, and patent linkages after CAFTA-DR

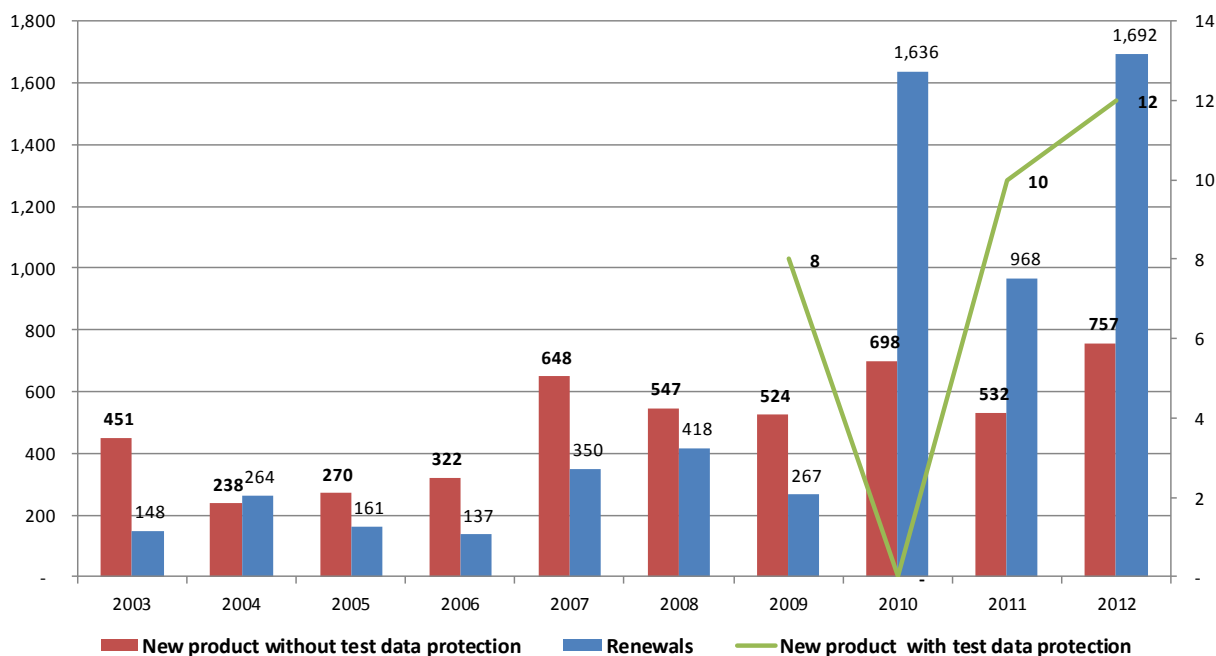
One way to illustrate the impact of the clause on protection of test data and the narrow definition of new pharmaceutical products or chemical entities is to look at registrations for pharmaceutical products with the Ministry of Health. As shown in Figure 5-1, only 30 active ingredients or 39 pharmaceutical specifications have received the protection of test data for five years in 2009-2012. This amounts to only one percent of the number of active ingredient registrations without test data protection during the same period. This is not surprising because most of the drugs that are developed every year and registered in the world by pharmaceutical companies are new presentations or formulations of preexisting medicine doses, rather than new drugs. In the case of the United States, for example, the Food and Drug Administration (FDA) approved 20 new molecular entities in 2005¹⁰⁵ and 35 in 2012.¹⁰⁶ Furthermore, approximately two-thirds of the drugs approved by FDA of the United States are not new molecular entities but amendments and new uses for existing drugs.¹⁰⁷

¹⁰⁵ Congressional Budget Office (2006, page 11).

¹⁰⁶ Food and Drug Administration (2012).

¹⁰⁷ Congressional Budget Office (2006, pages 2 and 7).

Figure 5-1 Registration of active ingredients with the Ministry of Health in Costa Rica



Source: Information provided by Laura Vargas Sanchez, Legal Counsel at the Health Products Directorate, Ministry of Health

Costa Rica has approved the registration of only four products (two active ingredients) at the Health Ministry with patent linkage (see Table 5-1). As mentioned in the previous section, patent linkage is a mechanism to promote effective and adequate protection of intellectual property rights. If a patent exists, marketing approval will not be granted to a generic until the patent has expired or is found to be invalid. Patent linkage is a registered patent “linked” to the product that is covered by the patent in the market.¹⁰⁸

Table 5-1 Pharmaceutical products with patent linkage protection

| Product name | Registry number | Registry date | Patent Linkage number | Expiration date | Test protection expiration date | Data Active ingredient |
|------------------|-----------------|---------------|-----------------------|-----------------|---------------------------------|------------------------|
| Champix 0.5 mg | 4132-BM-5018 | 8/15/2007 | 2645 | 2/25/2020 | 8/15/2012 | Vareniclina Tartrato |
| Champix 1 mg | 4132-BM-5051 | 8/15/2007 | 2645 | 2/25/2020 | 8/15/2012 | Vareniclina Tartrato |
| Celsentri 150 mg | 4132-BM-3388 | 7/16/2008 | 2688 | 12/23/2018 | 7/16/2013 | Maravoric |
| Celsentri 300 mg | 4132-BM-3369 | 7/16/2008 | 2688 | 12/23/2018 | 7/16/2013 | Maravoric |

Source: Author's calculations using the information reported by the Ministry of Health

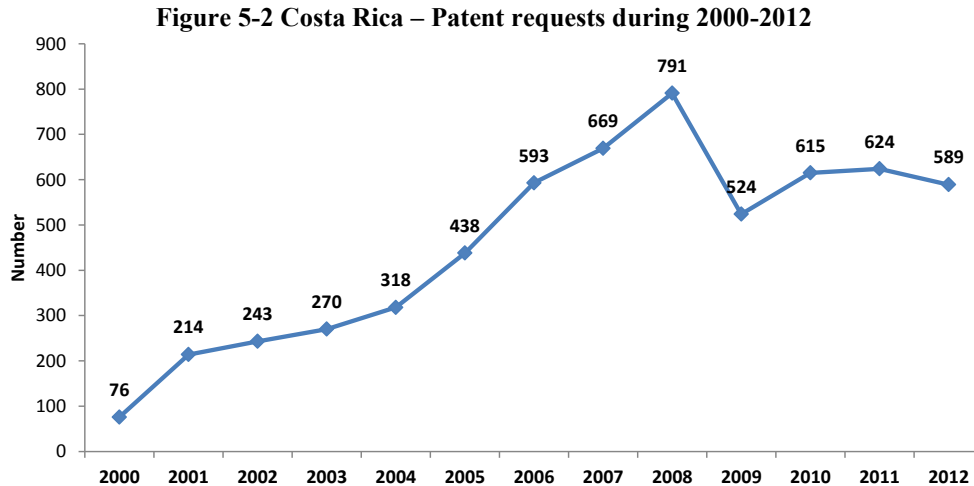
Patent requests for all areas grew consistently until 2008, creating a potential backlog for reviews (Figure 5-2).¹⁰⁹ On average, about 590 new patent requests per year were submitted in 2009-2012. Although data is not available on patent requests for pharmaceutical products, according to the Costa Rican National Intellectual Property Strategy of 2012,¹¹⁰ that included a complete study on

¹⁰⁸ Ferriter, Karin L. (2007).

¹⁰⁹ The list of registered products is available at: <http://www.ministeriodesalud.go.cr/index.php/informacion/productos-registrados?start=8>

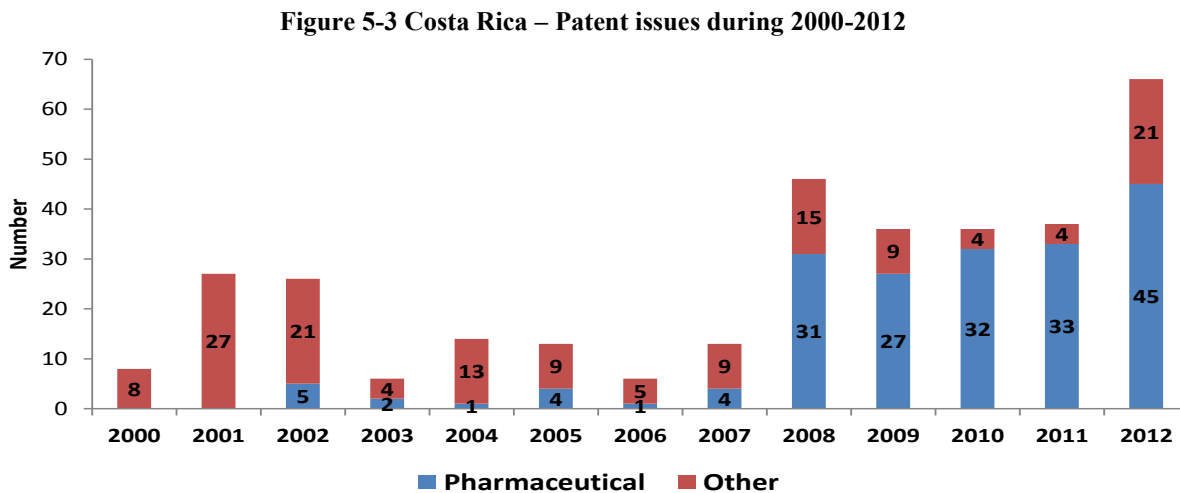
¹¹⁰ See Castro (2012) for the document retrieved from <http://www.micit.go.cr/index.php/component/content/article/1142.html>

pharmaceutical patents, there are 2,410 innovations so far related to pharmaceutical, biotechnology, and chemical products that are under the analysis of the Patent Office to determine if they are going to receive a patent protection or not. However, it is well known that not all of them will surpass the patentability evaluation.



Source: based on data provided by Luis Gustavo Alvarez, Director's Office, Industrial Property Registry.

Since 2008 there is an increase in the number of patents issued, but the numbers are small when compared to new patent requests. Most of patents issued are for pharmaceutical products (Figure 5-3), which could be attributed to efforts by the Patent Office to avoid the implementation of the patent term restoration.



Source: based on data provided by Luis Gustavo Alvarez, Director's Office, Industrial Property Registry.

5.4 How has CAFTA-DR's IP rules affected the CCSS?

As the primary provider of Costa Rica's healthcare services, the CCSS has developed policies, jointly with the Costa Rican Health Ministry, to provide universal medicine coverage under human

health rights regulations.¹¹¹ One of these policies is the essential medicine policy to define an official medicines list. The official medicines list includes those medicines necessary to solve the majority of the population's health requirements, considering the health needs or diseases to be treated, and the structure and level of development of health services which are provided in each country. This essential medicines policy ensures Costa Rica has the medications needed to treat the major causes of death and mortality affecting the population and ensures that the medicines are available in the quantities and at the time that they are needed.¹¹² Using the official medicine list, the purchase and supply of medicines for the national population is one of the most important activities of the CCSS, which require careful definition and management.

There are three aspects for the definition of an essential medicine policy:

- **Offer and medicine selection:** There are a lot of chemical pharmaceutical entities for therapeutic and clinical uses but not all of them are essential or necessary to address the country's health issues.
- **Quality:** The medicine that is going to be prescribed to the population must be safe and efficient.
- **Sustainability of public health systems with limited budget:** international medicine market conditions and their costs.¹¹³

Based on this definition, and following the World Health Organization (WHO) recommendations, the CCSS published its essential medicine policy in 1985.¹¹⁴ This policy has two basic components to assure a rational use of medicines:

- **Technical - scientific component:** The Medical Management will conduct and be responsible for the selection, prescribing, dispensing and administration of the medicines, as well as for providing information and education about them.
- **Operational Component:** The Logistics Management will be responsible for planning, acquisition, quality, storage and distribution of the medicines.

There is a specific procedure to include a medicine on the official medicine list in accordance with several criteria and available options in the market. To add a new medicine or product to the official medicine list there has to be a public health need. The analysis is made in accordance with the following criteria: epidemiological, clinical, pharmacological, and pharmacoeconomics. Also, an analysis of available alternatives including the review of scientific evidence, clinical trials, meta-analysis are needed in order to establish the efficacy and safety of the proposed alternatives and their response to the public health need.¹¹⁵

Since 1988, the Costa Rican Medical Management determined that the responsibility for medicine selection and updating the official medicine list is the Central Committee of Pharmacotherapy. The Central Committee of Pharmacotherapy is a scientific and technical body established in 1982 by the

¹¹¹ CCSS (2012).

¹¹² Idem

¹¹³ CCSS and COMEX (2013).

¹¹⁴ The essential medicine policy was established by the Executive Decree Number 19343-S that was published on Dec 19, 1989. Article 16 of the Decree states: *"Public Health Institutions must have a basic form of medicine with the corresponding administrative regulations and therapeutic information, in accordance with the National Therapeutic Formulary. For this purpose and to ensure the correct application of this Regulation, each institution will establish a Pharmacotherapy Committee, which will also be responsible for approving the purchase of pharmaceutical products that are not included in the National Therapeutic Formulary in cases of exceptional urgency and necessity. In any case, this determination must be made known to the Committee with information and data necessary to justify such a decision."*

¹¹⁵ Power Point presentation on the Economic Effects of Medicines.

CCSS.¹¹⁶ The Committee includes 13 national hospital specialist doctors and 3 pharmacists. Its main objective is to assure the country's population access to medicine and their rational use, according to the health or diseases' needs. Once the country's needs have been met, they can add to the official medicine list which is a public document that can be found on the CCSS webpage.¹¹⁷

The official CCSS list of medicines is always under evaluation and updated. Currently, the official medicine list includes 455 active ingredients in 641 pharmaceutical presentations, which have been selected and included on the list according to the procedure indicated above.¹¹⁸ The drugs included on the official list of medicines do not constitute the totality of the medicines on the Costa Rican market, but only the medications that the Central Committee considers necessary to address the population's health issues. Between January 2009 and May 2013, the list was updated with 7 new active ingredients and 12 pharmaceutical presentations.¹¹⁹

Pharmaceutical innovation changes constantly and has a significant impact on the CCSS's essential medicine list. CCSS efforts to maintain an up-to-date official list of medicines shows that between 2001 and 2010, only 2 percent of the medicines that entered the market were a real advance to medicine, 14 percent were not acceptable, 7 percent could offer some advantage over available treatment options, 21 percent could offer some help, 52 percent did not represent any significant advantage and 5 percent were of reserved judgment.¹²⁰ The real challenge is to define how many and which of the new medicines introduced to the market really represent actual progress. For example, a study made by the Congressional Budget Office of the United States on research and development in the pharmaceutical industry indicates that approximately two-thirds of the drugs approved by the Food and Drug Administration (FDA) of the United States are not new molecular entities but amendments and new uses for existing drugs.¹²¹

The CCSS Purchase Policy for medicine allows the institution to make a careful selection of the medicines that are required to specifically address public health problems. The purchase policy avoids the duplication of products used for specific diseases, which in turn creates an environment for more competitive pricing of pharmaceutical products. This policy allows for stability in the official medicine list. For the last 4 years, the CCSS has only added about 1.6 active ingredients per year. The implementation of the policy has also demonstrated that not all drugs on the market that are considered necessary for public health care need to be incorporated into the CCSS official list of medicines. In fact,

¹¹⁶ See the Executive Decree # 13878-SPPS of September 22nd, 1982.

¹¹⁷ 1. Official list of medicines, updated 08/27/2013 <http://www.ccss.sa.cr/medicamentos>. 2. Analysis of the Impact of CAFTA on the Costa Rican Social Security System – after 4 years of entry into force, Costa Rican Social Security System and Ministry of Foreign Trade study. July, 2013).

¹¹⁸ CCSS and COMEX (2013).

¹¹⁹ The active ingredients added to the official list of medicines were (listed in Spanish): 1) Vacuna neumocócica polivalente, 2) Gadopentato de dimeglumina o gadoversetamida o ácido gadotérico, 3) Complejo coagulante antiinhibidor, 4) Levobupivacaina HCL, 5) Mesalamina 6) Tenofovir disoproxil fumarato and 7) Derivado protéico purificado de tuberculina. The new pharmaceutical presentations added were: 1) Vacuna neumocócica polivalente, 2) Gadopentato de dimeglumina o gadoversetamida o ácido gadotérico, 3) Montelukast 5 mg, 4) Vacuna combinada de toxoide diftérico y tetánico, componente pertussis acelar, poliovirus 1,2,3 inactivos, 5) Vacuna combinada toxoide diftérico y tetánico, componentes pertussis acelar naturales y toxoide pertussis, poliovirus de tipo 1, 2, 3 inactivados y vacuna hemophilus tipo B conjugada, 6) Hipromelosa 2906 al 2.5 percent solución estéril o Hipromelosa 0.3 percent gel estéril, 7) Progesterona 100 mg o 200 mg cápsulas blandas, 8) Complejo coagulante anti-inhibidor, 9) Levobupivacaina HCL, 10) Mesalamina (sinónimo mesalazina), 11) Tenofovir Disoproxil fumarato Tabletas 300 mg and 12) Derivado Proteico purificado de Mycobacterium tuberculosis Frasco ampolla de 1 ml. 5TU/0.1ML.

¹²⁰ Gagnon, M.A. (2012), Pooling of all Prescriber's data collected since 1981, Prescriber Abril 2012; 32 (342): 311-314

¹²¹ Congress of the United States Congressional Budget Office (2006), Research and Development in the Pharmaceutical Industry, p. 2 and 7

out of the total number of chemical-pharmaceutical entities in the world, only 4.91 percent are included in the CCSS official list of medicines to address the public health problems of the national population.¹²²

It is important to say that for some of the new products that were included in the CCSS official list of medicines since 2009, there is no generic medicine registered in Costa Rica. Therefore, access to generics is not related with IP because even those new products that actually do not have data exclusivity or any other IP right, they do not have a generic version in the market. Such is the case for 3 vaccines, Gadoversetamida (gadoteric acid), and Levobupivacaina (Levobupivacaine). The reasons for this situation are varied. In some cases, the manufacturing complexity or the low profitability is not an incentive for generic pharmaceutical companies to produce the generic version. Most of them even wait until a medicine is included on the official list of medicines before producing the drug as a generic medicine to ensure that there will be an attractive market.

Costa Rican law grants sufficient power to the government to adopt all the necessary steps to assure that the patent process of medicines will not affect its availability to the population. The implementation of CAFTA-DR did not change the patent process. It is necessary to clarify that regarding data protection, CAFTA-DR does not prohibit generic medicine production, marketing, importation, purchase or distribution. The treaty simply establishes a 5-year term protection for all the generated test data in order to protect information on the new medicine's safety and efficacy, in accordance with worldwide protection standards. However, this information is not exclusive and therefore the protection is for non-disclosure purposes. On data protection of new pharmaceutical products CAFTA_DR has a novelty which does not mean that the production, commercialization, importation, purchase or distribution of generic medicines is prohibited. The agreement establishes that there will be a 5- year protection on the data protection generated to demonstrate the efficacy and security of new medicines that will be available in the national market.

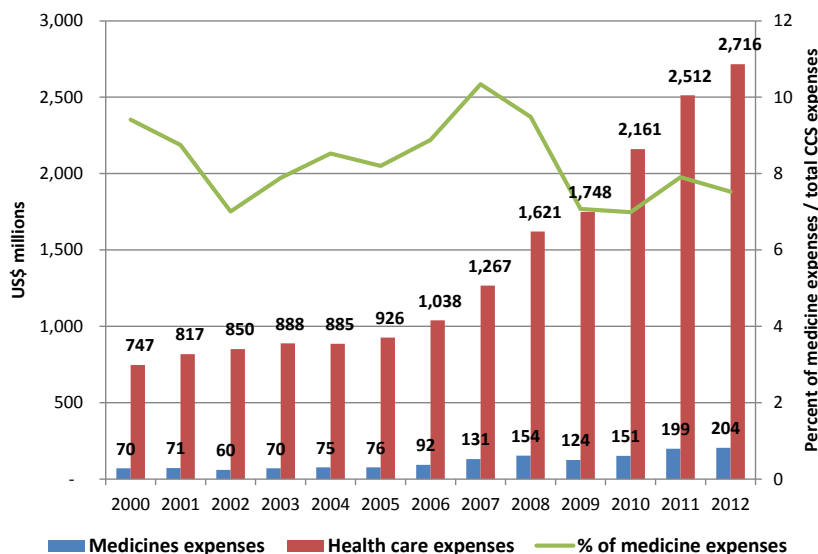
To analyze the impact of CAFTA's data protection rules on the official medicine list of CCSS, a review of the updating of the list and the registered pharmaceutical products over the last four years is needed. Since CAFTA-DR's entry into force and May 2013, only seven active ingredients and 12 pharmaceutical presentations have been added to the CCSS official medicine list. This means approximately 1.6 active ingredients and 2.7 pharmaceutical presentations per year. The newly introduced medicine with data protection was Tenofovir disoproxil fumarate (Viread 300 mg tablets) for which data protection will expire on May, 2016.

During the first four years of CAFTA-DR enforcement in Costa Rica, data protection or patent linkages were not the determining factor for the inclusion of a product on the CCSS official medicine list. The inclusion of a medicine on the official list of medicines was not impacted by the CAFTA-DR's rules on data protection or patent linkages, but rather on other considerations, including price, technology used for the production of the medicine, economic viability of generic medicine pharmaceutical manufacturers, and the complexity and quality of the products required by the CCSS. These are the critical factors that have influenced the CCSS purchase decisions, and they have not been modified after the entry into force of CAFTA-DR four years ago. Only one product with data protection has been included on the official medicine list of CCSS (Tenofovir disoproxil fumarate). The official medicine list does not include any of the four products with patent linkages in Costa Rica (see Table 5-1 for the list of products) and thus the CCSS does not buy them.

¹²² The official medicine list includes 455 active ingredients in cabinet and complementary medicines, and 36 active ingredients on medicines not registered before the Ministry of Health but allowed to enter the country upon a special needs criteria from the CCSS. Therefore the CCSS uses 491 chemical-pharmaceutical entities to address the public health problems of the population.

Given that very few of the medicines in the official list have either data protection or patent linkages, an economic impact of these rules on the CCSS may not be observed. As discussed above, the CCSS includes medicines on its official medicine list based on the population's health needs and not according to any intellectual property requirements. In addition, it is not necessary for a medicine to have patent linkage to be included on the official list. In this regard, it is interesting to note that the only products that have patent linkage in Costa Rica were not included on the CCSS official medicine list, since the Central Committee of Pharmacotherapy has not considered them as products necessary to treat the population health or diseases.

Figure 5-4 Expenditures in Healthcare and Medicine by CCSS



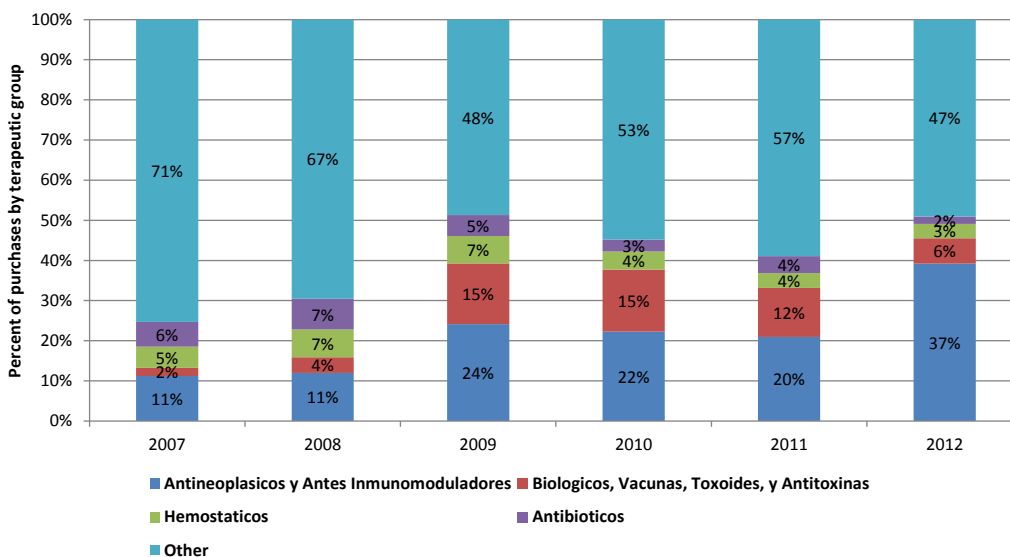
CCSS' growth in expenditures cannot be attributed to medicines. As shown in Figure 5-4, CCSS' medicine expenditure amounted to US\$204 million in 2012, accounting for eight percent of total expenditure by the CCSS. This share dropped from a peak of 10 percent in 2007, suggesting that other factors, besides medicines are affecting the CCSS' expenditure. A recent study by the PAHO shows that one of the main determinants of the difficult financial situation of CCSS is the high level of staff remunerations (salaries and social security contributions).¹²³ That study also shows that the share of staff remunerations as a percent of total health care expenditure increased from 54 percent in 2000 to 68.5 percent in 2010, illustrating that those expenses have been growing faster than other expenditure categories, including purchase of medicines.¹²⁴

When examining medicine expenses, a small group of medicines account for half of the expenditures. As shown in Figure 5-2, antineoplastic products, which are aimed for oncology, increased to 37 percent of medicine purchases in 2012, from 11 percent in 2007. During the same period, the share of biologics and vaccines increased to six percent.

¹²³ PAHO (2011).

¹²⁴ Idem (page 16).

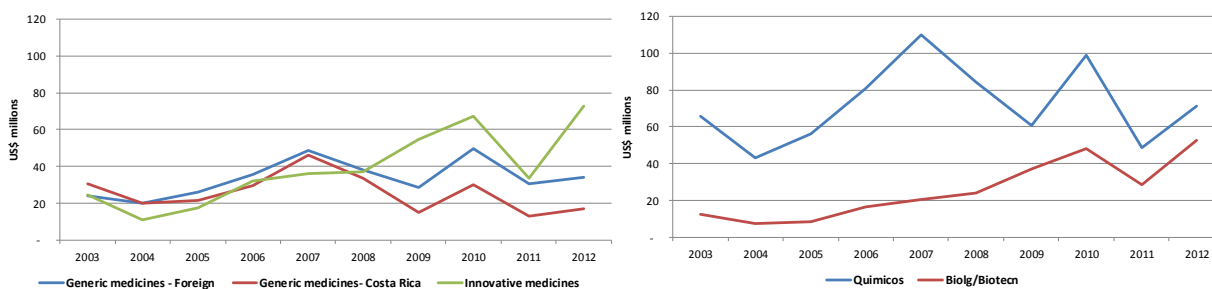
Figure 5-5 CCSS – Composition of Medicine Expenditures, 2007-2012



Increasing investment in innovators’ products has been almost reduced to production costs rather than IP protection. In the past several years, in particular in 2009, the investment in innovators’ products increased as a result of the entry of biological and biotechnological medicines in Costa Rica¹²⁵. This situation has arisen due to the cost of production for these kinds of medicines rather than anything related with IP protection.¹²⁶

When examining CCSS’ investments in medicines by type some interesting trends emerged. First, the gap between CCSS’ investments on national and foreign generic medicines has grown since 2009 (see Figure 5-6). Furthermore, investments in innovative and biologic/biotechnology medicines are also growing. From the data, it is not possible to determine from the data whether CCSS’ purchases in medicines have shifted from national to foreign markets.

Figure 5-6 CCSS’ Medicines Investments by Type



¹²⁵ Economic effects in medicines, ppt created/authored by CCSS.

¹²⁶ Information obtained from CCSS Budget Direction.

References

- Anderson, J. (1979). A Theoretical Foundation for the Gravity Equation. *American Economic Review*.
- AXCO (2010). Nicaragua and the INS Annual Report 2010.
- Barry, F. (1996). Peripherality in economic geography and modern growth theory: evidence from Ireland's adjustment to free trade. *The World Economy*, 19(3), 345 – 365.
- Barry, F., & Bradley, J. (1997). FDI and Trade: The Irish Host Country Experience. *The Economic Journal*, 107(445), 1798–1811.
- Basico, Estandar, Plus, Silver, Gold, www.cabletica.com
- Bergstrand, J. (1985). The Gravity Equation in International Trade: Some Microeconomic Foundations and Empirical Evidence. *The Review of Economics and Statistics*, MIT Press, vol. 67(3), pages 474-81, August.
- Blomstrom, M., & Kokko, A. (1997). Regional integration and foreign direct investment. Retrieved from <http://www.nber.org/papers/w6019>.
- Buckley, P. J., Clegg, J., Forsans, N., & Reilly, K. T. (2000). United States Foreign Direct Investment into Canada : An Empirical Analysis with Emphasis on the Free Trade Hypothesis United States Foreign Direct Investment into Canada : An Empirical Analysis with Emphasis on the Free Trade Hypothesis.
- Bütthe, T., & Milner, H. (2008). The politics of foreign direct investment into developing countries: increasing FDI through international trade agreements? *American Journal of Political Science*, 52(4), 741–762.
- Buttkereit, S., Enriquez, L., Grijpink, F., Moraje, S., Torfs, W., Vaheri-Delmuelle, T. (2009). Mobile Broadband for the Masses: regulatory levers to make it happen. Retrieved from www.mckinsey.com.
- Calderon, C. & Poggio, V. (2011): Trade and Economic Growth: Evidence on the Role of Complementarities for the CAFTA-DR Countries. Published in Getting the Most Out of Free Trade Agreements in Central America. Chapter 4. The World Bank, Washington DC.
- Carrillo, Lara (2011), Panamerican Health Organization. Report about the situation regarding the financial condition of the CCSS health insurance, July, 2011.
- Castro, Alejandra (2012). *Estrategia nacional de propiedad intelectual*. Document prepared for the Ministry of Justice in Costa Rica in cooperation with Organización mundial de la propiedad intelectual (OMPI) and under the supervisión of Comisión Interinstitucional de Propiedad Intelectual (CIPPI). Retrieved from <http://www.micit.go.cr/index.php/component/content/article/1142.html>
- CCSS (2012). Official List of Medicine and Normative. Retrieved from http://www.ccss.sa.cr/archivos/pub/21/lom_2012.zip
- CCSS (2013). Economic effects in medicines, ppt created/authored by CCSS.
- CCSS and COMEX (2013). Análisis del impacto del tratado de libre comercio entre República Dominicana, Centroamérica y Estados Unidos as sus cuatro años de vigencia en la Caja Costarricense del Seguro Social.
- CISCO Barómetro (2009). VIII medición de la penetración de Internet de banda ancha en Costa Rica. Retrieved from: <http://www.caatec.org/sitio1/images/stories/publicaciones/barometro/barmetro-cisco-viii-informe-costa-rica-dic-2009.pdf>

- Claro: Interview with Victor Garcia, Gerente Regulacion Claro, 8/14/2013
- Congressional Budget Office (2006), “Research and Development in the Pharmaceutical Industry.” available at <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/76xx/doc7615/10-02-drug-rd.pdf>.
- Dypski, M. (2002), “The Caribbean Basin Initiative: An Examination of Structural Dependency, Good Neighbor Relations, and American Investment”, *Journal of Transnational Law and Policy*, Volume 12 (1).
- El Financiero “Apatia en ventas de 3G”, December 20, 2009.
- El Financiero “Apple domina en Costa Rica”, Sep. 1, 2011.
- El Financiero: “Costa Rica con Internet banda ancha mas caro”, May 29, 2008. The article cites CAATEC
- Ferreira, G. F. C., & Harrison, R. W. (2012). From Coffee Beans to Microchips : Export Diversification and Economic Growth in Costa Rica, 4(November), 517–531.
- Ferriter, Karin L. (2007). *Linkages between Generic Approval and the Patent System in the United States* [powerpoint slides]. Retrieved from
- Food and Drug Administration (2012). FY 2012 Innovative Drug Approvals - Bringing Life-saving Drugs to Patients Quickly and Efficiently. Retrieved from <http://www.fda.gov/downloads/aboutfda/reportsmanualsforms/reports/ucm330859.pdf>
- Francois, J. F., Rivera, L., and Rojas-Romagosa, H. (2007). Economic Perspectives for Central America after CAFTA-DR : A GTAP-based Analysis.
- Frutos, D., Teekasap, P. and S. Masood (2011), “CAFTA-DR Effects on FDI Inflows, Growth and Distribution of the Workforce in Costa Rica: a System Dynamics Approach”, *The International Trade Journal*, 25 (3).
- Frutos, D., Teekasap, P., and Samii, M. (2011). CAFTA-DR-DR Effects on FDI Inflows, Growth, and Distribution of the Workforce in Costa Rica: A System Dynamics Approach. *The International Trade Journal*, 25(3), 372–393.
- Gagnon, M.A. (2012), Pooling of all Prescrire’s data collected since 1981, *Prescrire* Abril 2012; 32 (342): 311-314.
- Gereffi, G., & Fernandez-stark, K. (2013). COSTA RICA IN GLOBAL VALUE CHAINS : An Upgrading Analysis, (June), Center on Globalization, Governance & Competitiveness, Duke University.
- Giuliani, E. (2008). Multinational Corporations and Patterns of Local Knowledge Transfer in Costa Rican High-Tech Industries. *Development and Change*, 39(3), 385–407.
- González, A. (2006), El proceso de negociación de un tratado de libre comercio con Estados Unidos: la experiencia del tratado de libre comercio entre Centroamérica, Estados Unidos y República Dominicana, BID-INTAL, Washington, DC.
- Gould, D. (1998). Has NAFTA Changed North American Trade? *Economic Review*. Federal Reserve Bank of Dallas, First Quarter, pp. 12-23.
- Hicks, R., Milner, H. V., & Tingley, D. (2013). Trade Policy, Economic Interests, and Party Politics in a Developing Country: The Political Economy of CAFTA-DR-DR. *International Studies Quarterly*.
- Hicks, R., Milner, H., and D. Tingley, D. (2014), “Trade Policy, Economic Interests and Party Politics in a Developing Country: The Political Economy of CAFTA.” *International Studies Quarterly*.

- Hornbeck, J. (2012), “The Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR): Developments in Trade and Investment”, CRS Report for Congress, April, USA.
- Investment in Central America. Center for International Development at Harvard University, Working Paper No. 58.
- Investment in Central America. Center for International Development at Harvard University, Working Paper No. 58.
- Investment in Central America. Center for International Development at Harvard University, Working Paper No. 58.
- Jansen, H.; S. Morley and M. Torero (2007), The Impact of the Central America Free Trade Agreement on Agriculture and the Rural Sector in Five Central American Countries”, Working Paper, The International Food Policy Research Institute.
- Jaramillo, F. & Lederman, D. (2006): “Challenges of CAFTA: Maximizing the Benefits for Central America” Directions in Development Trade. The World Bank, Washington, D.C.
- Kim, Y., Kelly, T., Raja, S. (2010). Building Broadband- strategies and policies for the developing world. The World Bank, Washington D.C.
- Kolbi Hogar, www.grupoice.com
- Kose, M. A., & Rebucci, A. (2005). How might CAFTA-DR change macroeconomic fluctuations in Central America? *Journal of Asian Economics*, 16(1), 77–104.
- La Nacion (2013). Tribunal Condena a Municipios por Restriccion a torres celulares. August. 20, 2013.
- Larraín, F., López -Calva, L.F., Rodríguez-Clare, A. (2000). Intel: A Case Study of Foreign Direct Investment in Central America. Center for International Development at Harvard University, Working Paper No. 58.
- Latin Business Chronicle (2007a):” CAFTA's Impact on Costa Rica—Costa Rica's approval of CAFTA will be an overall benefit to the Central American country, most experts say”, October 15, 2007, Retrieved from <http://www.latinbusinesschronicle.com/app/article.aspx?id=1705>.
- Latin Business Chronicle (2007b):”Costa Rica’s CAFTA Choice—CAFTA will open doors for Costa Rica’s workers, farmers and entrepreneurs”, October 1, Retrieved from <http://www.latinbusinesschronicle.com/app/article.aspx?id=1674>.
- Lederman, D., Jaramillo, F., Bussolo, M., Gould, D. and A. Mason (2006), “Challenges of CAFTA: Maximizing the benefits for Central America”, The World Bank, Washington, DC.
- Lederman, D., Maloney, W. F., & Serven, L. (2005). *Lessons from NAFTA: For Latin America and the Caribbean*. Palo Alto, California: Stanford University Press and The World Bank.
- Lim, E.-G. (2001). Determinants of and the relation between foreign direct investment and growth: A summary of the recent literature. IMF Working Paper, 1-28.
- López, H. and R. Shankar (2011), “Getting the most out of Central America’s Free Trade Agreements”, The World Bank, Washington, D.C.
- Mathews, J. A., & Cho, D.-S. (2000). *Tiger Technology: The Creation of a Semiconductor Industry in East Asia*. Cambridge, UK: Cambridge University Press.
- Medvedev, D. (2012). Beyond Trade: The Impact of Preferential Trade Agreements on FDI Inflows. *World Development*, 40(1), 49–61.
- MICITT (2013). A 5 años de la apertura de las telecomunicaciones en Costa Rica. Presentation made by RETEL at COMEX. San José, Costa Rica.

- MIGA (2006) The Impact of Intel in Costa Rica. Washington, DC 20433. Retrieved from www.ipanet.net/investing_in_development/intelcr.
- Monge, R., M Loría, and C. González-Vega (2003), “Retos y Oportunidades para los sectores Agropecuario y Agroindustrial de Centroamérica ante un Tratado de Libre Comercio con Estados Unidos”, report prepared for the World Bank CAFTA-DR Studies Program. www.worldbank.org/CAFTA-DR.
- Monge-Ariño, F. (2011). Costa Rica: trade opening, FDI attraction and global production sharing. Geneva. Retrieved from <http://www.econstor.eu/handle/10419/57577>.
- Monge-Gonzales, R., Rosales-Tijerino, J., Arce-Alpizar, G. (2005) Cost-Benefit Analysis of the Free Trade Zone System. The Impact of Foreign Direct Investment in Costa Rica. Organization of American States Office of Trade, Growth and Competitiveness. Washington, D.C. 20006, U.S.A.
- Monge-González, R., & Hewitt, J. (2010). Innovation, R&D and productivity in the Costa Rican ICT sector: A case study, (June). Inter-American Development Bank Working Paper Series No. IDB-WP-189.
- O’Keefe, T. (2009), “Latin America and Caribbean Trade Agreements: Keys to a Prosperous Community of the Americas”, Martinus Nijhoff Publishers, The Netherlands.
- Observatorio Regional de Banda Ancha ORBA (2012). Estado de la banda ancha en Latinoamérica y el Caribe.
- OECD (2004), “Costa Rica”, in OECD Investment Policy Reviews: Caribbean Rim 2004: Costa Rica, Dominican Republic and Jamaica, OECD Publishing, Paris, France.
- OECD (2009). Broadband and the Economy” OECD. Retrieved from www.oecd.org/dataoecd/62/7/40781696.pdf
- OECD (2012). Attracting Knowledge-Intensive FDI to Costa Rica: Challenges and Policy Options. Paris.
- Padilla-Pérez, R., & Martínez-Piva, J. M. (2009). Export growth, foreign direct investment and technological capability building under the maquila model: winding roads, few intersections. *Science and Public Policy*, 36(4), 301–315.
- PAHO (2011). *Informe sobre el estado de situacion financiera del seguro de salud de la Caja Costarricense del Seguro Social*. Washington, D.C., USA
- Pain, N. (1997). Continental Drift: European Integration and the Location of U.K. Foreign Direct Investment. *The Manchester School*, 65(S), 94–117.
- Paunovic, Igor (2004), “The United States-Central American Free Trade Agreement: Fiscal Implications for Central American Countries”. UN-ECLAC working paper LC/MEX/L.616, Mexico City.
- Paus, E. a., & Gallagher, K. P. (2007). Missing Links: Foreign Investment and Industrial Development in Costa Rica and Mexico. *Studies in Comparative International Development*, 43(1), 53–80.
- Pineda, Humberto (2013). FONATEL. Presentation delivered on August 22, 2013.
- Public Broadcasting Service (2005).”Trade issues--Debating the Central American Free Trade Act”, 3.11.05, <http://www.pbs.org/now/politics/caftadebate.html>.
- Quiang, Christine, Rosotto, Carlo and Kimura, Kaoru, “Economic impact of Broadband” in “Information and Communications for Development 2009: Extending Reach and Increasing Impact”, pp. 35-50, World Bank, Washington D.C.
- Reuters (2007): “US trade pact is protested in Costa Rica”, *The New York Times*, October 1, http://www.nytimes.com/2007/10/01/world/americas/01costarica.html?_r=0.

- Rodríguez-clare, A. (2001). Costa Rica's Development Strategy based on Human Capital and Technology : how it got there, the impact of Intel , and lessons for other countries. *Journal for People-Centered Development*, 2(2), 311-324.
- Rojas, Edwin Fernando (2012). *Estado de la banda ancha en Latinoamérica y el Caribe*. Report of Observatorio Regional de Banda Ancha (ORBA). Retrieved from <http://www.eclac.org/publicaciones/xml/9/48449/EstadobandaAnchaenAMLC.pdf>
- Ruane, F., & Gorg, H. (1997). The Impact of Foreign Direct Investment on Sectoral Adjustment in the Irish Economy. *National Institute Economic Review*, 160(1), 76–86.
- Sally, R. (2006). Free Trade Agreements and the Prospects for Regional Integration in East Asia. *Asian Economic Policy Review*, 1(2), 306–321.
- Sanchez-Ancochea, D. (2006). Development trajectories and new comparative advantages: Costa Rica and the Dominican Republic under Globalization. *World Development*, 34(6), 996–1015.
- SUTEL (2009). Informe Técnico sobre el Uso y Asignación del Espectro Radioeléctrico en Costa Rica. May 15, 2009. San Jose, Costa Rica.
- SUTEL (2010). Modelo del Contrato: Plan de Desarrollo de la Red. Licitación Pública. Concesión para el Uso y Explotación del Espectro radioeléctrico para la Prestación de Servicios de Telecomunicaciones Móviles. San José, Costa Rica.
- SUTEL (2013). Estadísticas del sector de telecomunicaciones. Informe 2010-2012. San José, Costa Rica.
- The Heritage Foundation (2007):” Costa Rica and CAFTA: Chavista Rhetoric Threatens Trade Deal's Benefits”, October 4, <http://www.heritage.org/research/reports/2007/10/costa-rica-and-cafta-chavista-rhetoric-threatens-trade-deals-benefits>.
- Trade Zone System (____). The Impact of Foreign Direct Investment in Costa Rica. Organization of American States Office of Trade, Growth and Competitiveness. Washington, D.C. 2006, U.S.A.
- Trejos, A. (2008). Country role models for development success: The case of Costa Rica. Helsinki. Retrieved from <http://www.econstor.eu/handle/10419/45106>.
- Upside down World (2007):”Referendum in Costa Rica: Countdown to CAFTA?”, September 27, Retrieved from <http://upside-down-world.org/main/trade-archives-54/912-karis-cafta-cr-article>.
- Vargas, J. (2008). Costa Rica: una decisión estratégica en tiempos inciertos”. *Rev. cienc. polít.*, Santiago, 28 (1).
- Villalobos, V., & Monge-González, R. (2011). Costa Rica's Efforts Toward an Innovation-Driven Economy: The Role of the ICT Sector. *The Global Information*. pp. 119–126). Retrieved from <https://reports.weforum.org/wp-content/pdf/gitr-2011/03-part-2/2.1-costa-ricas.pdf>
- Yeyati, E. L., Stein, E., & Daude, C. (2002). Regional Integration and the Location of FDI. Washington, DC, United States: Retrieved from [http://www.webmeets.com/files/papers/lacea/2002/263/Regional Integration FDI final.pdf](http://www.webmeets.com/files/papers/lacea/2002/263/Regional%20Integration%20FDI%20final.pdf)

Annex 1. 1—Legal changes under CAFTA-DR

This annex provides an overview of the implementation of legislation required under CAFTA-DR in Costa Rica and the timetable which was followed.

National Treatment and Market Access for Goods

Approved Laws and Regulations to date

DR- CAFTA established on Article 3.19, “Committee on Agricultural Trade”, that no later than 90 days after the date of entry into force of the Agreement, the Parties shall establish a Committee on Agricultural Trade. The Executive Decree No. 36598-COMEX¹²⁷, of February 23rd, 2011, created the Committee on Agricultural Trade. The Committee’s members are the Ministry of Foreign Trade (COMEX), the Ministry of Agriculture (MAG) and the Ministry of Economy, Industry and Commerce (MEIC).

To comply with the obligations set forth in Chapter 3 (Market Access), Chapter 4 (Rules of Origin and Origin Procedures), and Chapter 5 (Custom Administration and Trade Facilitation) of CAFTA-DR, Costa Rica issued the Executive Decree No. 34753-H-COMEX¹²⁸ on September 16th, 2008, known as “Regulations for the Implementation and Administration of Customs Provisions and Rules of Origin of CAFTA-DR”, which entered into force on January 1st, 2009. It sets the rules for the implementation and administration of customs and origin rules under CAFTA-DR, to apply the origin rules contained in Chapter 4 (Rules of Origin and Origin Procedures), Annex 4.1 (Specific Rules of Origin) or Appendix 3.3.6 (rules of Origin) of the Treaty, to determine whether the imported goods qualify for such preferential tariff treatment.

Compliance with timetable for implementation

| Law / Regulation | Deadline DR- CAFTA | In Force | Detail |
|----------------------------------|--|---------------------------------|---------------------|
| Executive Decree No. 36598-COMEX | Article 3.19: establish a Committee on Agricultural Trade April 1 st , 2009 | July 1st, 2011 | Late Compliance |
| Executive Decree No. 34912-COMEX | Note 2, Appendix I, January 1 st , 2012, Costa Rica must assign quotas | December 3 rd , 2008 | Compliance on time. |

Rules of Origin and Origin Procedures

Approved Laws and Regulations to date

In accordance with Articles 3.25.2 and 19.1.3 (b) (ii) of CAFTA-DR, the Free Trade Commission adopted on February 23rd, 2011 a decision in relation to certain rules of origin for textile and apparel goods, and

¹²⁷ Published in Official Gazette No. 127, on July 1st, 2011.

¹²⁸ Published in supplement No. 37 to the Official Gazette No. 184 of 24th, September, 2008.

modified Annex 4.1 (Specific Rules of Origin). This obligation was implemented through Executive Decree No. 36597-COMEX¹²⁹, of February 23rd, 2011.

Furthermore, article 2.1 of CAFTA-DR states that in accordance with the domestic law of a Party, the customs authority is responsible for the administration of customs laws and regulations, as well, as general regulatory framework, establishing the rules governing free trade relations between the signatory countries. Nevertheless, it establishes the obligation for the Parties to adopt internal regulations to promote efficient and transparent customs procedures, and to ensure the accuracy of foreign trade operations to importers and exporters.

To comply with this obligation set forth in CAFTA-DR, Costa Rica issued the Executive Decree No. 34753-H-COMEX¹³⁰ on September 16th, 2008, known as “Regulations for the Implementation and Administration of Customs Provisions and Origin Rules of CAFTA-DR”, which entered into force on January 1st, 2009. It sets the rules for the implementation and administration of customs and origin rules under CAFTA-DR, to apply the origin rules contained in Chapter 4 (Rules of Origin and Origin Procedures), Annex 4.1 (Specific Rules of Origin) or Appendix 3.3.6 (rules of Origin) of the Treaty, to determine whether the imported goods qualify for such preferential tariff treatment.

According to Appendix 4.1-B of CAFTA-DR, "Parties shall consult to increase the limits specified" in paragraph 3 of this Appendix, "to take into account the ability of the Dominican Republic to participate in such limits". The Dominican Republic sent notices to the Central American Parties and the U.S. to make changes on certain limits. As a result, the Free Trade Commission adopted a decision to Appendix 4.1-B, to increase the limits for the Dominican Republic set out in paragraph 3 of Appendix 4.1-B, effective as of March 1, 2012. This decision was adopted on February 23rd, 2011, and was implemented by Executive Decree No. 36596-COMEX¹³¹.

Finally, pursuant to Article 4.21 of CAFTA-DR, the Parties agreed on the Common Guidelines for the Interpretation, Application and Administration of Chapter Four of the Treaty, establishing certain definitions and regulation guidelines for the proper use of Chapter Four. This decision was implemented by Executive Decree No. 36938-COMEX¹³², of December 13th, 2011.

Compliance with timetable for implementation

There was no timetable established for these obligations in CAFTA-DR.

Sanitary and Phyto-Sanitary Measures

Approved Laws and Regulations to date

CAFTA-DR stated on Article 6.3, “Committee on Sanitary and Phyto-sanitary Matters”, that not later than 30 days after the date of entry into force of the Treaty, the Parties shall establish a Committee on Sanitary and Phyto-sanitary Matters. By means of Decree No. 36598-COMEX¹³³, of February 23rd; 2011, the Committee on Agricultural Trade was created. It is composed by COMEX, MAG and MEIC.

¹²⁹ Published in the Official Gazette No. 129 of July 5th, 2011

¹³⁰ Published in supplement No. 37 to the Official Gazette No. 184 of 24th, September, 2008.

¹³¹ Published in the Official Gazette No. 137, on July 15th, 2011

¹³² Published in the Official Gazette No. 18, on January 25th, 2012.

¹³³ Published in Official Gazette No. 127, on July 1st, 2011.

In addition, although the reform of the Phytosanitary Protection Act was not within the direct reforms agreed upon in CAFTA-DR, in August 18th, 2003, the Customs Act was amended by the Law N° 8373¹³⁴, of August 18th, 2003, including amendments to articles 3rd, 5th, and 52nd of the Phytosanitary Protection Act, and established a record, control and use of chemical substances or related to agricultural use. The essential purpose of the reform is to provide information about the features, quality, identity and effectiveness of these substances, and to ensure their correct use without creating unacceptable risks to human health and the environment

Additionally, Costa Rica issued Executive Decree No. 33495-MAG-S-MINAE-MEIC¹³⁵ of October 31, 2006. This Executive Decree entered into force on January 1st, 2009. This decree was produced to amend the regulations regarding registry, use and control of Synthetic Pest Control Products formulated ingredients, technical grade active use, aids and related substances for agricultural use, providing for the information management and documentation pursuant to the Undisclosed Information Act and registry procedure of Pest Control Products. There was no timetable established for this obligation.

Furthermore, Chapter 6 of CAFTA-DR requires the Parties (means any State for which DR-CADTA is in force to the Treaty), to maintain and promote free trade barriers supported by risk analysis criteria. Therefore, the Food Safety and Inspection Service of the USDA Food United States of America ("FSIS / USDA"), requested the Government of Costa Rica to recognize the system of inspection of beef, pork and poultry meat in the United States as equivalent to the Costa Rica inspection system.

To comply with this obligation, SENASA issued the following Resolutions:

- (i) SENASA-MAG DG 005-2008¹³⁶, of February 8, 2008.
- (ii) SENASA-MAG DG 006-2008¹³⁷, of February 8, 2008.
- (iii) SENASA DG011¹³⁸ of February 8, 2008.

These resolutions recognizes that the system of inspection and certification of beef, pork, and poultry, used by SENASA is equivalent to the one used in the United States.

¹³⁴ Published in the Official Gazette in September 5th, 2003.

¹³⁵ Published in Supplement No. 37 to the Official Gazette No. 184 of September 24th, 2008.

¹³⁶ Published in Official Gazette No. 42 of February 28, 2008.

¹³⁷ Published in Official Gazette No. 42 of February 28, 2008.

¹³⁸ Published in Official Gazette No. 42 of February 28, 2008.

Compliance with timetable for implementation

| Law / Regulation | Deadline DR- CAFTA | In Force | Detail |
|------------------|---|----------------|-----------------|
| No. 36598- COMEX | <i>Article 3.19: establish a Committee on Agricultural Trade 90 days after the date of entry into force of this Agreement</i> | July 1st, 2011 | Late Compliance |

Trade Remedies

Approved Laws and Regulations to date

Chapter 8 of CAFTA-DR, Trade Remedies, Section A: Safeguards, article 8.3, indicates that each Party shall ensure the consistent, impartial and reasonable administration of laws, regulations, decisions and rulings governing safeguards procedures established under this Chapter.

To comply with this obligation, Costa Rica issued Executive Decree No. 34755-COMEX-MEIC¹³⁹, of August 22nd, 2008, which entered into force on January 1st, 2009, it designated the Office of Business Practices, Unfair and Safeguard Measures of MEIC as the national authority responsible for applying safeguard measures and following the procedures set out in Chapter 8 of the Treaty. It also designated the procedures and requirements set forth in Section A and Annex 8.3 of Chapter 8, as a procedure to weigh out the investigation and resolution regarding the safeguard measures application.

Compliance with timetable for implementation

There was no timetable established for this obligation on CAFTA-DR.

Government Procurement

Approved Laws and Regulations to date

Article 9.13 of CAFTA-DR, regarding “Ensuring Integrity in Procurement Practices”, states that each Party shall adopt or maintain procedures to declare ineligible for participation in the Party’s procurements, either indefinitely or for a specified time, suppliers that the Party has determined to have engaged in fraudulent or other illegal actions in relation to procurement. By Law No. 8630¹⁴⁰, of January 17th, 2008, the Criminal Code (Law No. 4573) and the Law Against Corruption and Illicit Proceeds (Law No. 8422) were amended to comply with obligations under CAFTA-DR regarding integrity in procurement practices.

These amendments consist of:

- a) Inclusion of prison punishments for any individual who receives any bribe, advantage, or promise of some benefit, in exchange to improperly manipulate any procurement procedure or its outcome.
- b) Establishes the right to confidentiality for the person that reports an act of corruption indicated in the Penal Code (Law No. 4573).

¹³⁹ Published in the Supplement No 37 to the Official Gazette No. 184 on September 24th, 2008.

¹⁴⁰ Published in the Official Gazette No. 33 on February 15th, 2008.

- c) In the case that the remuneration, gift or unfair advantage, is promised or offered by an official, manager, agent or employee of a corporation, in connection with, or with the means of a corporation, such corporation will be imposed a fine, without excluding criminal and civil liabilities and the administrative responsibility for the public official. In addition, the corporation shall be disqualified and forbidden to participate in procurement procedures in Costa Rica, accordingly to paragraph c) of Article 100 of the Public Procurement Act, Law No. 7494, *Ley de Contratación Administrativa*.
- d) According to the seriousness of the fault, the following sanctions may apply:
 - (i) Closing of the company for a period not exceeding five years.
 - (ii) Suspension of the activities of the company up to a maximum period of five years.
 - (iii) Cancellation of operation license or permit of the company.
 - (iv) Loss of tax benefits or exemptions granted to the company.
- e) Inclusion of the felony “*transnational bribe*” which consists on prison penalty for whoever offers or grants any public official any kind of retribution in exchange for improperly performing, slowing down or omitting any act, or to get another officer to influence derived from his/her position.

In addition, the General Controller’s Office (CGR) adopted resolution R-DC-53¹⁴¹ detailing guidelines for Public Offices regarding the application of article 9 of DR CAFTA. The provisions of Chapter 9 apply to any measure relating to procurement, and, in accordance with Chapter 2: General Definitions, they are above any law, regulation, procedure, requirement or practice and guidelines relating to procurement.

In accordance with Article 9.16 (Procurement - Changes and Adjustments to Coverage) of CAFTA-DR, the U.S. government provided written notice to the governments of Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras and Nicaragua, for a modification proposal to the U.S. list in Section A of Annex 9.1.2 (b) (i) of the Treaty and two minor amendments to the U.S. list in Sections A and E of Annex 9.1.2 (b) (i) of the Treaty, which were not challenged by any Party. As a result, the Free Trade Commission adopted the decision on Annex 9.1.2 (b) (i), amending the relevant sections of Annex 9.1.2 (b) (i). This decision was taken on February 23, 2011, and was implemented by Executive Decree No. 36599-COMEX¹⁴², of July 5th, 2011.

Compliance with timetable for implementation

There was no timetable established for this obligation on CAFTA-DR.

Cross-Border Trade in Services

Approved Laws and Regulations to date

CAFTA-DR, on Annex 11.13, “Specific Commitments”, Section A: Costa Rica, states that Costa Rica shall repeal articles 2 and 9 of Law No. 6209, known as *Ley de Protección al Representante de Casas Extranjeras*, dated 9 March 1978, and its regulation, and paragraph b) of article 361 of the Commerce Code, Law No. 3284 of April 24th, 1964, *Código de Comercio*, effective on the date of entry into force of the Treaty.

¹⁴¹ Published in Official Gazette No. 119, of June 21st, 2011.

¹⁴² Published in the Official Gazette No. 129 of July 5, 2011.

To comply with this obligation, the Congress of Costa Rica issued the Law N° 8629¹⁴³, of November 30th, 2007. Law 8629 revoked articles 2nd and 9th of Law No. 6209 and paragraph b) of article 361 of the Commerce Code.

Law No. 8629 complies with Annex 11.13. Contracts of representation, distribution, or production, as it:

- (i) Is consistent with the obligations of CAFTA-DR and the principle of freedom of contract;
- (ii) Treats such contracts as establishing an exclusive relationship only if the contract explicitly states that the relationship is exclusive;
- (iii) Provides for the termination of such contracts either on their termination dates or in the circumstances described in subparagraph (iv). It is cause for a goods or service suppliers of another Party to terminate the contract or allow the contract to expire without renewal.
- (iv) Allows contracts with no termination date to be terminated by any of the Parties by giving ten months advance termination notice.
- (v) States that the absence of an express provision for settlement of disputes in a contract of representation, distribution, or production gives rise to a presumption that the Parties intended to settle any disputes through binding arbitration, except if any of the Parties objects to arbitration.

Compliance with timetable for implementation

| Law / Regulation | Deadline DR- CAFTA | In Force | Detail |
|------------------|---|----------------------------------|---------------------|
| Law No. | Annex 11.13: repeal articles 2 and 9 of Law No. 6209, and item b) of article 361 of the Commerce Code, Law No. 3284 date of entry into force of CAFTA-DR | December 18 th , 2007 | Compliance on time. |

Financial Services

Approved Laws and Regulations to date

i. Financial Services

Annex 12.9.2: “Specific Commitments”, states that Costa Rica shall:

- (i) Allow a financial institution (other than a trust company) organized outside its territory to provide investment advice and portfolio management services, excluding (a) custodial services, (b) trustee services, and (c) execution services that are not related to managing a collective investment scheme, to a collective investment scheme located in its territory.
- (ii) Require that the ultimate responsibility for the management of a collective investment scheme be borne by a “*Sociedad Administradora de Fondos de Inversión*” incorporated according to the *Ley Reguladora del Mercado de Valores*, No. 7732 of December 17th, 1997 in the case of investment funds or an “*Operadora de Pensiones*” incorporated according to the *Ley de Protección al Trabajador*, No. 7983 of February 18th, 2000 in the case of pension funds and complementary pension funds.

To comply with this obligation, the National Council for the Supervision of the Financial System (Consejo Nacional de Supervisión del Sistema Financiero of Costa Rica (CONASSIF)) approved, on

¹⁴³ Published in Official Gazette No. 243, on December 18th, 2007.

article 28th of its meeting No. 569-2006 held on April 6th, 2006, the general regulation for the corporations responsible for the management of investment funds in Costa Rica. This regulation established that foreign funds subject to marketing in the country are those who are registered and supervised by the International Organization of Securities Commissions (IOSCO). Additionally it incorporates the possibility of marketing real estate funds that are authorized in the United States, Spain, Mexico, Canada, Brazil, Colombia and Chile and England. This regulation instituted detailed rules for the authorization and implementation of corporations responsible of managing investment funds, and the public offering of national and foreign investment funds.

In November 6, 2003 the Superintendent of Pensions (Superintendencia de Pensiones (SUPEN) issued the regulation SP-A-036 regarding pension funds and complementary pension funds, the articles 3 and 4 of said regulation set out specific provisions aiming at complying with requirements in Annex 12.9. 2 of CAFTA-DR.

ii. Insurance

Chapter 12 of CAFTA-DR states that Costa Rica shall allow insurance service providers on a non-discriminatory basis, to effectively compete to supply to the consumer insurance services as provided in Annex 12.9.2, upon completion of the liberalization schedule on January 1, 2011.

Annex 12.9.2, Section H: “Specific Commitments of Costa Rica on Insurance Services” of CAFTA-DR, sections II and III indicates that:

- (i) By no later than January 1st, 2007, Costa Rica shall establish an independent insurance regulatory authority which shall be separate from and not accountable to any supplier of insurance services;
- (ii) By no later than the date of entry into force of CAFTA-DR, Costa Rica shall permit that:
 - a. Persons located in its territory, and its nationals wherever located, may purchase any and all lines of insurance (except compulsory automobile insurance and occupational risk insurance) from cross-border insurance service suppliers and,
 - b. The cross-border supply of or trade with respect to: (a) insurance risk relating to: (i) space launching of freight (including satellite), maritime shipping and commercial aviation, with such insurance to cover any or all of the following: the goods being transported, the vehicle transporting the goods and any liability arising there from; and (ii) goods in international transit; (b) retrocession and reinsurance; (c) services necessary to support global accounts; (d) services auxiliary to insurance as referred to in subparagraph (d) of the definition of financial service; and (e) insurance intermediation, provided by brokers and agents outside Costa Rica.
- (iii) By July 1st, 2007 Costa Rica shall permit the establishment of representative offices; and the cross-border supply of or trade in financial services with respect to: (i) services auxiliary to insurance as referred to in subparagraph (d) of the definition of financial service; (ii) insurance intermediation such as brokerage and agency as referred to in subparagraph (c) of the definition of financial services; and (iii) surplus lines.
- (iv) Costa Rica shall, on a non-discriminatory basis, allow insurance service suppliers of any Party, to establish and effectively compete to supply directly to the consumer insurance services in its territory as provided below:
 - a. Any and all lines of insurance (except compulsory automobile and labor hazard insurance), no later than January 1st, 2008; and
 - b. Any and all lines of insurance, no later than January 1st, 2011.

“To comply with this obligation, the Congress of Costa Rica approved the Insurance Market Regulatory Statute, Law No. 8653, signed on July 22nd, 2008, the *Ley Reguladora del Mercado de Seguros*, which entered into full force and effect on 7 August 2008, amended Law No. 12 of October 30th, 1924, *Ley Monopolios del Instituto Nacional de Seguros*. This new laws established the general framework for conducting the business of insurance in Costa Rica, as well as the obligation for insurers, reinsurers, producers, local service providers, and cross-border providers to register before and/or be licensed by the local regulator. It also created the General Insurance Superintendence (SUGESE), the local authority in charge of regulating the market, supervising its participants, and protecting consumers.

In addition, pursuant to Section 12.9.2 Annex H of CAFTA-DR, the Government of Costa Rica issued the Executive Decree No. 34924-MP-H-COMEX,¹⁴⁴ aiming at clarifying the scope of the “State guarantee” granted by the government to INS operations in accordance with Article 1 of Law No. 12 of October 30, 1924, Law of the National Insurance Institute, as amended by Article 52 of Law No. 8653,¹⁴⁵ signed on July 22nd, 2008, the Insurance Market Regulatory Statute.

Additionally, on article 7th of the meeting No. 744-2008146, held on September 18th, 2008, CONASSIF approved the Regulation on the Financial Standing of the Insurance and Reinsurance companies in Costa Rica, *Reglamento sobre la Solvencia de Entidades Aseguradoras y Reaseguradoras*. This regulation establishes the rules of appraisal of assets and liabilities, the requirements of capital adequacy regime and solvency, technical provisions and reserves, as well as the investment regime applicable to insurers and reinsurers. At meeting No. 1050 of July 2nd, 2013, CONASSIF amended this regulation to establish the rules of valuation of assets and liabilities, the requirements of capital adequacy regime and solvency, technical provisions and the investment regime of the assets backing them applicable to insurers and reinsurers. The amendment shall enter into force on January 1st, 2014.

Furthermore, CONASSIF approved, on article 6th of its meeting No. 744-2008147, held on September 18th, 2008, the Regulation regarding Authorizations, Registry and Functioning Requirements for Entities Supervised by SUGESE, *Reglamento sobre Autorizaciones, Registros y Requisitos de Funcionamiento de Entidades Supervisadas por la Superintendencia General de Seguros*. This Regulation establishes the procedure, the areas of analysis, requirements and assessment criteria to apply for a license or register as insurer, reinsurer, insurance brokers and agencies, agents and brokers. It also applies to registration of representative offices, cross border insurance providers, intermediation and auxiliary services. The authorizations applicable to financial groups are governed by the Superintendent of Financial Entities (SUGEF), Regulation No. 8-08 for the Authorization of Entities Supervised by SUGEF, and for the authorization of financial groups and conglomerates.

Compliance with timetable for implementation

iii Financial Services.

There was no timetable established for the financial services obligations.

iv Insurance

| Law / Regulation | Deadline DR- CAFTA | In Force | Detail |
|-------------------------|---------------------------|-----------------|---------------|
|-------------------------|---------------------------|-----------------|---------------|

¹⁴⁴ Published in Official Gazette No. 237, on December 8th, 2008.

¹⁴⁵ Published in the Official Gazette No. 152 on August 7th, 2008.

¹⁴⁶ Published in Official Gazette No. 184, on September 24th, 2008.

¹⁴⁷ Published in Official Gazette No. 184, on September 24th, 2008.

| | | | |
|---|--|-------------------------------|--------------------|
| Law No. 8653, Ley Reguladora del Mercado de Seguros | January 1 st , 2007: independent insurance regulatory authority (SUGESE) | August 7 th , 2008 | Late Compliance |
| Law No. 8653, Ley Reguladora del Mercado de Seguros | January 1 st , 2009: purchase any and all lines of insurance from cross-border insurance | August 7 th , 2008 | Compliance on time |
| Law No. 8653, Ley Reguladora del Mercado de Seguros | January 1 st , 2007: establishment of representative offices | August 7 th , 2008 | Late compliance |
| Law No. 8653, Ley Reguladora del Mercado de Seguros | January 1 st , 2008: any and all lines of insurance except compulsory automobile and labor hazard insurance | August 7 th , 2008 | Late compliance |
| Law No. 8653, Ley Reguladora del Mercado de Seguros | January 1 st , 2011: any and all lines of insurance, no later than | August 7 th , 2008 | Compliance on time |

Telecommunications

Approved Laws and Regulations to date

CAFTA-DR established on Annex 13: “*Specific Commitments of Costa Rica on Telecommunications Services*”, section II: “*Modernization of ICE*”, that Costa Rica shall enact a new legal framework to strengthen ICE, through its appropriate modernization, no later than December 31, 2004. Additionally, on section III: “*Selective and Gradual Market Opening*”, DR- CAFTA indicated that Costa Rica shall allow, by January 27, 2003, service providers of another Party to supply telecommunications services on terms and conditions that are no less favorable than those established by or granted pursuant to its legislation. Furthermore, according to CAFTA-DR, Costa Rica shall allow telecommunications services providers of another Party, on a non-discriminatory basis, to effectively compete to supply directly to the customer, through the technology of their choice, the following telecommunications services in its territory:

- (i) private network services, no later than January 1, 2006;
- (ii) Internet services, no later than January 1, 2006; and
- (iii) Mobile wireless services, no later than January 1, 2007.

The Telecommunications Law No. 8642¹⁴⁸, *Ley General de Telecomunicaciones*, was approved by Costa Rican Congress on June 4th, 2008. The purpose of this law is to establish the scope and mechanisms of regulation of telecommunications, which includes the use and exploitation of networks and the provision of telecommunications services.

¹⁴⁸ Published in the Official Gazette, on June 30th, 2008.

To comply with its obligations under CAFTA-DR, the Congress of Costa Rica enacted the Law for the Strengthening and Modernization of the Costa Rican Electricity Institute (ICE), Law No. 8660¹⁴⁹ *Ley de Fortalecimiento y Modernización de las Entidades Públicas del Sector Telecomunicaciones*, of August 6th, 2008. The objective of this law is to strengthen, modernize and equip ICE, and its dependencies, with the proper legislation to enable it to adapt to any changes in the legal regime of generation and delivery of electricity, telecommunications, info-communications, products and other information services and converged services.

Additionally, this law supplements the Law No. 449 of April 8th, 1949, which created ICE, to bestow ICE with the legal, financial and administrative specifications necessary to continue with the provision of electricity and telecommunications services within the country and abroad. It also creates the Telecommunications Superintendence (SUTEL), entity responsible for regulating, implementing, monitoring and controlling the telecommunications regulatory framework. Furthermore, this law relaxes and increases the mechanisms and procurement procedures for ICE and its subsidiaries. It guarantees and reaffirms the administrative and financial autonomy of ICE and its subsidiaries, and ensures accountability and evaluation of results of ICE.

In addition, the Government of Costa Rica issued the Executive Decree No. 34765-MINAET¹⁵⁰, Regulations of the Telecommunications Law, *Reglamento de la Ley General de Telecomunicaciones*, signed on September, 22th, 2008. This Executive Decree sets out the principles to be followed with regard to concessions, authorizations and permits, as well as allocation of frequencies for various telecommunications services. It regulates Chapter II and III of Title I of the Telecommunications Law, No. 8642, which set the planning, management and control of the radio spectrum and standards applicable to the granting of the authorization certificates, as well as the Radio Law No. 1758 of June 19th, 1954, as amended.

Regarding the obligations on telecommunications set forth in CAFTA-DR, the Regulatory Authority for Public Services of Costa Rica, (ARESEP), also issued a Regulation for the Interconnection of Telecommunication Networks; *Reglamento de Acceso e Interconexión de Redes de Telecomunicaciones*.¹⁵¹ It governs Chapter III of Title III of the Telecommunications Law No. 8642, *Ley General de Telecomunicaciones* and other provisions of the law. Additionally, ARESEP issued a Regulation for the Telecommunications Competence Regime in Costa Rica, *Reglamento del Régimen de Competencia en Telecomunicaciones*.¹⁵² This regulation governs Chapter II of Title III of the General Telecommunications Law.

Furthermore, ARESEP issued the Regulation for Universal Access, Universal Service and Solidarity of the Telecommunications Services, *Reglamento de Acceso Universal, Servicio Universal y Solidaridad*.¹⁵³ This regulation develops Chapter I, Title II of the General Telecommunications Law. Finally, the Government of Costa Rica enacted the Executive Decree No. 34916-MINAET¹⁵⁴ amending the Regulations of the General Telecommunications Law, *Modificación al Reglamento a la Ley General de Telecomunicaciones* (Executive Decree No. 34765-MINAET), of December 1st, 2008. This Executive Decree establishes more precisely the principles and requirements to be followed with regard to the authorizations referred to in Article 38 of the Regulations to the Telecommunications Act.

¹⁴⁹ Published in the Official Gazette, on August 13th, 2008.

¹⁵⁰ Published in the Official Gazette No. 186, on September 26th, 2008.

¹⁵¹ Published in the Official Gazette No. 201, October 17th, 2008.

¹⁵² Published in the Official Gazette No. 201, October 17th, 2008.

¹⁵³ Published in the Official Gazette No. 201, on October 17th, 2008.

¹⁵⁴ Published in the Official Gazette No. 235 on December 4th, 2008.

Compliance with timetable for implementation

| Law / Regulation | Deadline DR- CAFTA | In Force | Detail |
|--|---|--------------------------------|-----------------|
| Law No. 8642. Ley General de Telecomunicaciones | <i>January 27th, 2003: Allow service providers to supply telecommunications services</i> | June 30 th , 2008 | Late compliance |
| Law No. 8642. Ley General de Telecomunicaciones | <i>January 1st, 2006: Private network services.</i> | June 30 th , 2008 | Late compliance |
| Law No. 8642. Ley General de Telecomunicaciones | <i>January 1st, 2006: Internet services.</i> | June 30 th , 2008 | Late compliance |
| Law No. 8642. Ley General de Telecomunicaciones | <i>January 1st, 2007: Mobile wireless services</i> | June 30 th , 2008 | Late compliance |
| Law No. 8660. Ley de Fortalecimiento y Modernización de las Entidades Públicas del Sector Telecom | <i>December 31st, 2004: Legal framework to strengthen ICE.</i> | August 13 th , 2008 | Late compliance |

Intellectual Property Rights

Approved Laws and Regulations to date

CAFTA-DR in Article 15.1: General Provisions states that each Party shall ratify or accede to the following agreements by the date of entry into force of this Agreement: (a) the WIPO Copyright Treaty (1996); and (b) the WIPO Performances and Phonograms Treaty (1996).

Additionally, each Party shall ratify or accede to the following agreements by January 1, 2006: (a) the Patent Cooperation Treaty, as revised and amended (1970); and (b) the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure (1980). In addition, each Party shall ratify or accede to the following agreements by January 1, 2008: (a) the Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite (1974); and (b) the Trademark Law Treaty (1994).

Finally, Article 15.1 states that Costa Rica shall ratify by June 1, 2007, the International Convention for the Protection of New Varieties of Plants (1991) (UPOV Convention 1991), and that each Party shall make all reasonable efforts to ratify or accede to the following agreements: (a) the Patent Law Treaty (2000); (b) the Hague Agreement Concerning the International Registration of Industrial Designs (1999); and (c) the Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks (1989).

Regarding the ratification of international agreements, Costa Rica has complied with the commitments set forth in CAFTA-DR as follows:

- (i) The WIPO Copyright Treaty was approved by Law number 7968,¹⁵⁵ of December 22, 1999 and entered into force February 2nd, 2000.
- (ii) WIPO Performances and Phonograms Treaty, was approved by Law number 7967¹⁵⁶, of December 22nd, 1999 and entered into force in January 31st, 2000.
- (iii) The Patent Cooperation Treaty was approved by Law number 7836¹⁵⁷, of October 22nd, 1998 and entered into force November 30th, 1998.
- (iv) The Budapest Treaty was approved by Law number 8633¹⁵⁸, of April 4th, 2008 and entered into force May 2nd, 2008.
- (v) The Brussels Convention was approved by Law number 7829¹⁵⁹, of September 22nd, 1998 and entered into forced October 16th, 1998.
- (vi) The Trademark Law Treaty was approved by Law 8636¹⁶⁰ of April 29th, 2008 and entered into forced June 12th, 2008.
- (vii) The UPOV Convention was approved by Law 8635¹⁶¹ of April 21st, 2008 and entered into forced April 30th, 2008.

It is important to mention that (i) the Trademark Law Treaty and the UPOV Convention were ratified accordingly with CAFTA-DR, but not within the timeline established by the Agreement; and that (ii) the Patent Law Treaty, The Hague Agreement and the Madrid Protocol, have not been approved or ratified by Costa Rica. As indicated above, the ratification of these treaties was included in CAFTA-DR as a best endeavors obligation.

In order to implement the UPOV Convention, Costa Rica enacted the Law on the Protection of New Varieties of Plants, Law No. 8631¹⁶², signed on March 6th, 2008 and enforced on March 19th, 2008. Said law establishes the legal regime for the protection of the rights of plant breeders and safeguards the rights of use of the small and medium farmers. The protection provided does not imply permission for commercial exploitation of the variety.

In order to comply with the provision set forth in Article 15.2: Trademarks of CAFTA-DR, Costa Rica approved Law No. 8632¹⁶³, of March 28th, 2008 and enforced on April 25th, 2008, which consists in a series of amendments to the Trademarks and other Distinctive Signs Law, including the signs or symbols that may constitute a trademark, the way holders of exclusive rights may prevent third parties from using the registered trademark without consent, the exceptions for registration rights due to third party rights, the scope of protection for the well-known trademarks and the legal owners' rights to grant trademark licenses.

By the Executive Decree, No. 34760-J-COMEX,¹⁶⁴ of September 17th, 2008, and enforced September 24th, 2008, the Regulation of the Trademarks and other Distinctive Signs Law, was amended in order to clarify on the legal framework applicable in cases of oppositions to registrations.

¹⁵⁵ Published in the Official Gazette No. 23 on February 2nd, 2000

¹⁵⁶ Published in the Official Gazette No. 21 on January 31th, 2000

¹⁵⁷ Published in the Official Gazette No. 232 on November 11th, 1998.

¹⁵⁸ Published in the Official Gazette No. 84 on May 2nd, 2008.

¹⁵⁹ Published in the Official Gazette No. 201 on October 16th, 1998

¹⁶⁰ Published in the Official Gazette No. 113 on June 12th, 2008.

¹⁶¹ Published in the Official Gazette No. 83 on April 30th, 2008.

¹⁶² Published in the Official Gazette No. 56 on March 19th, 2008

¹⁶³ Published in the Official Gazette No. 80 on April 25th, 2008

¹⁶⁴ Published in the Official Gazette No. 184 on September 24th, 2008.

Regarding provisions on Article 15.3: Geographical Indications, to comply with the Geographical Indication article of CAFTA-DR, Costa Rica undertook a series of modifications in its legislation as follows:

- (i) By Law No. 8632¹⁶⁵, of March 28th, 2008 and enforced April 25th, 2008. Costa Rica amended the Trademarks and other Distinctive Signs Law, in order to set the definition and registration process of geographical indication in order to meet the Treaty requirements, as well as the creation of the Geographical Indication Registry.
- (ii) By Executive Decree number 34756-J-COMEX166, of September 17th, 2008 and enforced September 24th, 2008, the Regulations for the Provisions Related to Geographical Indications and Appellations of Origin were modified, to comply with the National Treatment and Most Favourable Nation principles in the WTO Agreement on Trade Related Aspects of Intellectual Property Rights and so that provisions on geographical indications and appellations of origin are consistent with the international commitments assumed by the country.

To comply with article 15.4 according to CAFTA-DR, the National Academy for Science, from hereinafter (“NIC”), adopted on November 18th, 2009 the “.cr Domain-Name Dispute Resolution Policies”, which sets the terms and conditions to settle any disputes over the registration and use of an Internet domain name. In addition, NIC approved the Regulation for .cr Domain Name Dispute Resolution Policy to set the administrative proceedings.

Regarding articles (i) 15.5 Obligations Pertaining to Copyright and Related Rights, (ii) 15.6: Obligations Pertaining Specifically to Copyright; and, (iii) 15.7 Obligations Pertaining Specifically to Related Rights, Costa Rica had to undertake a number of amendments to the Copyrights and Related Rights Law, as follows:

- (i) By Law No. 8686¹⁶⁷, of November 21st, 2008, enforced on November 26th, 2008, a set of dispositions were modified to comply with the Treaty and with the international obligations Costa Rica acquired by the TRIPS Agreement and the Berne Convention. These amendments introduced changes to the definition, scope of protection, registration process and the exceptions and limitations regarding copyrights and related rights, as well as the scope of protection for moral and economic rights.
- (ii) Also, by Law No. 8834¹⁶⁸, of May 3th, 2010, enforced on May 13th, 2010, the Copyrights and Related Rights Law, previously amended by Law No. 8686, was again amended to fully meet the terms of the National Treatment Principle.
- (iii) By the Executive Decree No. 34912-COMEX¹⁶⁹, of November 21st, 2008, enforced on December 3th, 2008, articles 2 bis and 30 bis of the Regulation for the Copyrights and Related Rights were incorporated, to set the term of first publication of phonograms, performance and emissions, as well as the complementary application to copyrights of the penalty established by the Law on Procedures for Enforcement of Intellectual Property Rights for prosecution of unauthorized distribution of phonograms, performance and emissions.

¹⁶⁵ Published in the Official Gazette No. 80 on April 25th, 2008.

¹⁶⁶ Published in the Official Gazette No. 184 on September 24th, 2008

¹⁶⁷ Published in the Official Gazette No. 229 on November 26th, 2008.

¹⁶⁸ Published in the Official Gazette No. 92 on May 13th, 2010.

¹⁶⁹ Published in the Official Gazette No. 234 on December 3th, 2008.

In order to implement the obligations stated by CAFTA-DR in terms of article 15.8, by Law No. 8686¹⁷⁰, of November 21st, 2008 and enforced on November 26th, 2008, the penalty for willfully receiving and distribution of a program-carrying signal that originated as an encrypted satellite signal knowing that it has been decoded without the authorization of the lawful distributor of the signal was incorporated.

To meet the provisions on article 15.9 Patents of CAFTA-DR, by Law No. 8632¹⁷¹, of March 28th, 2008 and enforced April 25th, 2008 the Patent Law No. 6867 incorporated changes related to the priority term, the term in which third parties can file an opposition, the appointment of professionals in the area of the patent application that shall study the patentability in a term that should not exceed 2 years, the date when the protection term begins and the possibility to compensate such term due to unreasonable delays that occur in granting the patent, patent linkage and compulsory licenses, among others.

Also, by Law No. 8686, of November 21st, 2008, enforced on November 26th, 2008¹⁷², the Patent Law was amended to clarify the protection term of the patent and to exclude the possibility of using undisclosed data in the case of a public utility license.

In addition to the amendment mention above, by Executive Decree No. 34758-J-COMEX¹⁷³, of September 18th, 2008, enforced on September 24th, 2008. The Regulation of the Patent Law was modified in order to comply with the Patent Law and CAFTA-DR, in terms that: (i) the definition for “microorganism” set on the Regulation and the Patent Law, shall be the one set in the Biodiversity Law; and, (ii) in the case a pharmaceutical or agrochemical product lack the corresponding sanitary permit, this shall not be considered as failing to comply with the requirement for the patent to be capable of industrial application.

As part of the necessary adjustments set by CAFTA-DR, by Law No. 8632¹⁷⁴, of March 28th, 2008 and enforced April 25th, 2008, the Biodiversity Law was amended to introduce the definition and limitations on the protection of microorganisms. In addition, Law No. 8686¹⁷⁵, of November 21st, 2008, enforced on November 26th, 2008, specifies the cases of exception from patent protection and the circumstances in which the competent authorities may grant mandatory licenses.

Costa Rica approved the following Executive Decrees in relation to the Biodiversity Legislation to fulfill the implementation agenda:

- (i) Regulation to Article 80 of the Biodiversity Law, No. 34958-MINAET-COMEX¹⁷⁶, signed on December 11, 2008, indicated the administrative procedure to set the penalty for the non-compliance of the obligations set forth in the legal framework that regulates access to biodiversity, as well as the procedures to resolve the required consultation.
- (ii) Regulation to Article 78 of the Biodiversity Law, No. 34959-MINAET-COMEX¹⁷⁷, signed on December 11th, 2008, clarified the application of the concept of traditional or cultural biological practices on the public domain with respect to the Biodiversity Law.

Although these regulations came into force within the scheduled timeline of the implementation agenda, the Costa Rican Constitutional Chamber recently annulled the regulations for considering that the approval of said regulations lacked the required previous consultations needed for approval, by

¹⁷⁰ Published in the Official Gazette No. 229 on November 26th, 2008.

¹⁷¹ Published in the Official Gazette No. 80 on April 25th, 2008.

¹⁷² Published in the Official Gazette No. 229 on November 26th, 2008.

¹⁷³ Published in the Official Gazette No. 184 on September 24th, 2008.

¹⁷⁴ Published in the Official Gazette No. 80 on April 25th, 2008.

¹⁷⁵ Published in the Official Gazette No. 229 on November 26th, 2008.

¹⁷⁶ Published in the Official Gazette No. 242 on December 15th, 2008.

¹⁷⁷ Published in the Official Gazette No. 242 on December 15th, 2008.

resolutions number 2012-17058, of December 5th, 2012; and number 2012-18147, of December 14th, 2012.

With regards to article 15.10: Measures Related to Certain Regulated Products, Costa Rica adopted a system that properly protects undisclosed information from unfair use and against disclosure for both pharmaceutical and agrochemicals products, by the following amendments:

- (i) Executive Decree No. 34925-S-COMEX¹⁷⁸, of November 27st, 2008 enforced January 1st, 2009, that amended the Regulation for the Registration, Control, Import and Publicity of Pharmaceutical Products, establishing the proper registration process for pharmaceutical products, taking into account the protection of undisclosed information, register patents and parallel imports regarding said products;
- (ii) Executive Decree No. 34903-MAG-S-MINAET-MEIC-COMEX¹⁷⁹, of November 21st, 2008 enforced January 1st, 2009, amended the Regulation for the Registration, Use and Control of Formulated Synthetic Pesticides, Technical Active Ingredient, Coadjutants and Related Substances for Agricultural Use, setting the definitions for test data, new agrochemical product and technical-grade active ingredient; as well as the registration process regarding new and equivalent technical-grade active ingredients. Through the Executive Decree No. 35828-MAG-S-MINAET-MEIC-COMEX¹⁸⁰, of February 25th, 2010, enforced on March 15th, 2010, Executive Decree 34903 was annulled and definitions for active ingredient, test data, new agrochemical product and chemical entity were established, as well as the specifications for the public access information, the legal protection for test data and the registration process for new and equivalent technical-grade active ingredients and formulated synthetic pesticides.
- (iii) Law No. 7975¹⁸¹, of January 4th, 2000, enforced on January 18th, 2000, known as the Undisclosed Information Law, protects undisclosed information related to trade secrets, establishes the scope and exceptions of the legal protection, the penalties against transgressions, and establishes that in case competent authorities request undisclosed information for pharmaceutical or agrochemical products, those authorities have the responsibility to protect the undisclosed information from unfair use and disclosure. By Law No. 8686¹⁸² of November 21st, 2008, enforced on November 26th, 2008, article 8 of Law number 7975 was amended in order to correctly define new product and chemical entity.
- (iv) Executive Decree No. 34927-J-COMEX-S-MAG¹⁸³, of November 28th, 2008, enforced January 1th, 2009, set forth the applicable protection process for undisclosed information in order to obtain the registration of new pharmaceutical and agrochemical products. This executive decree establishes the definitions for chemical entity, test data, new pharmaceutical and agrochemical products; the scope of the legal protection, registration and sanctions against the transgression of trade secrets, as well as the legal commitment from public authorities to protect test data from unfair use and disclosure, especially in cases of new pharmaceutical and agrochemical products.

Regarding the obligations set forth in Article 15.11: Enforcement of Intellectual Property Rights, Costa Rica had to strengthen the enforcement legislation. By Law No. 8656¹⁸⁴, of July 18th, 2008, enforced August 11th, 2008: a series of amendments to the Law on Procedures for Enforcement of Intellectual

¹⁷⁸ Published in the Official Gazette No. 238 on December 9th, 2008.

¹⁷⁹ Published in the Official Gazette No. 234 on December 3th, 2008.

¹⁸⁰ Published in the Official Gazette No. 51 on March 15th, 2010.

¹⁸¹ Published in the Official Gazette No. 12 on January 18th, 2000.

¹⁸² Published in the Official Gazette No. 229 on November 26th, 2008.

¹⁸³ Published in the Official Gazette No. 238 on December 9th, 2008.

¹⁸⁴ Published in the Official Gazette No. 154 on August 11th, 2008.

Property Rights were introduced, establishing provisional measures, the process for a right holder to request border measures, the ex officio action by custom authorities, administrative and criminal confiscation and destruction of goods, criminal procedures and remedies, and intellectual property crimes. Furthermore, Law No. 8686¹⁸⁵, November 21st, 2008, enforced on November 26th, 2008, amended and clarified the right holder's opportunity to request the adoption of border measures and the possibility for a judge to order criminal confiscation and destruction of goods. Finally, by Law No. 8834¹⁸⁶, of May 3rd, 2010, enforced on May 13th, 2010, Law 8039 was modified in order to clarify the legal holder's right to prosecute unauthorized distribution of phonograms, performance and emissions.

In addition to fulfilling with the compromises set by CAFTA with regards to the limitation of the liability for service providers, Costa Rica approved the Executive Decree No. 36880-COMEX-JP¹⁸⁷, signed on October 18th, 2011, enforced on December 16th, 2011, in order to clarify and facilitate the cases in which Costa Rica will limit the liability of service providers. Such compromise was enforced accordingly with CAFTA-DR, but not on the timeline established by the Agreement.

Compliance with timetable for implementation

| Treaty | Signature | Publication in Official Gazette | In Force | Approved by Law | Details |
|---|-----------------------------------|---|----------------------------------|------------------------|--------------------|
| WIPO Copyright Treaty | December 22 nd , 1999 | No. 23 of February 2 nd , 2000 | February 2 nd , 2000 | No. 7968 | On time compliance |
| WIPO Performances and Phonographs Treaty | December 22 nd , 1999 | No. 21 of January 31 st , 2000 | January 31 st , 2000 | No. 7967 | On time compliance |
| Patent Cooperation Treaty | October 22 nd , 1998 | No. 232 of November 30 th , 1998 | November 30 th , 1998 | No. 7836 | In time compliance |
| Budapest Treaty | April 4 th , 2008 | No. 84 of May 2 nd , 2008 | May 2 nd , 2008 | No. 8633 | Late Compliance |
| Convention Relating to the Distribution of Program – Carrying Signals Transmitted by | September 22 nd , 1998 | No. 201 of October 16 th , 1998 | October 16 th , 1998 | No. 7829 | On time compliance |

¹⁸⁵ Published in the Official Gazette No. 229 on November 26th, 2008.

¹⁸⁶ Published in the Official Gazette No. 92 on May 13th, 2010.

¹⁸⁷ Published in the Official Gazette No. 242 on December 16th, 2011.

Satellite (Brussels Convention)

| | | | | | |
|--|-------------------------------|---|-------------------------------|----------|-----------------|
| Trademark Law Treaty | April 29 th , 2008 | No. 113 of June 12 th , 2008 | June 12 th , 2008 | No. 8636 | Late Compliance |
| International Convention for the Protection of New Varieties of Plants (UPOV) | April 21 st , 2008 | No. 83 of April 30 th , 2008 | April 30 th , 2008 | No. 8635 | Late Compliance |
| Patent Law Treaty | Has not been ratified | | | | |
| Hague Agreement | Has not been ratified | | | | |
| Madrid Protocol | Has not been ratified | | | | |

Labor

Approved Laws and Regulations to date

Articles 16.4.1 and 16.4.3 of CAFTA-DR establish the creation of a Labor Affairs Council, composed by ministerial representatives (or the equivalent level) of each Party, and the creation of a contact point with the other Parties and the public. In order to comply with such obligations, Costa Rica enacted Executive Decree No. 34757-MTSS-COMEX¹⁸⁸, of September 16th, 2008, known as the Implementation of Chapter 16 Labor CAFTA-DR, published in the Official Gazette No. 184 of September 24th, 2008. By this executive decree, Costa Rica created the Council of Labor Affairs and the Contact Point Unit within the Ministry of Labor, to address communications between the Parties and the public. This Executive Decree came into force on January 1st, 2009.

Compliance with timetable for implementation

There was no timetable established for this obligation on CAFTA-DR.

Environment

Approved Laws and Regulations to date

¹⁸⁸ Published in the Official Gazette No. 184 on September 24th, 2008.

CAFTA-DR, Chapter 17 Environmental, articles 17.5, 17.6.1 and 17.6.3, state that Costa Rica must designate an office as contact point to carry out the work of the Environmental Affairs Board. In addition, each Party shall establish procedures for the receipt and consideration of public communications on matters relating to this chapter. Likewise, prescribes the obligation to establish a board or consultative or advisory committee, comprising members of its public, including business and environmental organizations, to submit their views on environmental issues.

To comply with this obligation, Costa Rica issued the Executive Decree No. 34754–MINAET-COMEX¹⁸⁹ of September 16th, 2008, which entered into force January 1st, 2009. This decree designated the Ministry of Environment, Energy and Telecommunications (MINAET) as the official representative of the Republic of Costa Rica in the Environmental Affairs Board and appointed the Department of International Relations and Cooperation of MINAET as the contact point to carry out the Board work. It provides for the establishment of the advisory committee including representatives of NGOs and the private sector, as well as COMEX and MINAET and also establishing procedures for the receipt and consideration of public communications on environmental issues.

Compliance with timetable for implementation

There was no timetable established for this obligation on CAFTA-DR.

Transparency

Approved Laws and Regulations to date

Article 18.8: Anti-Corruption Measures of CAFTA-DR establishes that each Party shall adopt or maintain the necessary legislative or other measures to establish that it is a criminal offense under its law, to solicit or accept, directly or indirectly, any article of monetary value or other benefit, such as a favor, promise, or advantage, for himself or for another person, in exchange for any act or omission in the performance of his public functions. It was agreed on CAFTA-DR that each Party shall adopt or maintain appropriate penalties and procedures to enforce the criminal measures that it adopts or maintains.

By Law No. 8630¹⁹⁰, of January 17th, 2008, the Criminal Code (Law No. 4573) and the Law Against Corruption and Illicit Proceeds (Law No. 8422) were amended to comply with the obligations set forth in CAFTA-DR regarding Anti-Corruption Measures. The specific information of the amendments was mentioned on chapter six of this report.

Compliance with timetable for implementation

There was no timetable established for these obligations on CAFTA-DR.

¹⁸⁹ Published in the Official Gazette No. 184 of September 24, 2008.

¹⁹⁰ Published in the Official Gazette No. 33 on February 15th, 2008.

Additional approved Laws and Regulations not required by CAFTA-DR

Insurance

- (i) The Insurance Contract Law No. 8956, *Ley Reguladora del Contrato de Seguros*, of June 17th, 2011, published in the Official Gazette No. 175, on September 12th, 2011.
- (ii) Regulation for the commercialization of Insurance, *Reglamento sobre Comercialización de Seguros*, issued by SUGEF regulation No. 886-2010, of October 15th, 2010, published in the Official Gazette No. 217, on November 9th, 2010.
- (iii) Regulation issued by CONASSIF, regarding the functioning requirements of obligatory insurance, *Reglamento Requisitos de Funcionamiento de Seguros Obligatorios*, Regulation No. 4-2010, of December 10th, 2010, published in the Official Gazette No. 248, on December 22nd, 2010.
- (iv) Regulation issued by SUGESE, regarding the protection of insurance consumers, *Reglamento de Defensa y Protección del Consumidor de Seguros*, Regulation No. SUGESE-06-13, of June 25th, 2013, and published on the Official Gazette No. 146 on July 31st, 2013.
- (v) Regulation released by CONASSIF, regarding Collective Insurance, *Reglamento sobre Seguros Colectivos*, Regulation No. 1043-2013, of May 21st, 2013, published in the Official Gazette No. 115, on June 17th, 2013

Telecommunications

- (i) Executive Decree for the creation of a commission that coordinates the establishment and improvement of the telecommunications infrastructure, *Decreto de creación de la Comisión de coordinación para la instalación o ampliación de infraestructura de telecomunicaciones*, No. 36577, of May 12th, 2011, and published on the Official Gazette No. 113, of June 13th, 2011.
- (ii) Executive Decree for the Strengthening of ICE and its subsidiaries, *Decreto para el fortalecimiento del Instituto Costarricense de Electricidad y sus empresas*, No. 33619, of February 20th, 2007, published in the Official Gazette on May 12th, 2007.
- (iii) Executive Decree for the creation of a special commission to analyze and inform the rector of the telecommunications sector about possible standards applicable to the country and its technological implications, *Decreto que Crea Comisión Especial Mixta para Analizar e Informar al Rector del Sector de Telecomunicaciones el posible Estandar Aplicable al País e Implicaciones Tecnológicas*, No. 35657, of November 5th, 2009, published in the Official Gazette No. 247 on December 21st, 2009.
- (iv) Executive Decree regarding Digital Television, *Definición de Estándar de Televisión Digital y reforma Crea Comisión Especial Mixta Analizar e Informar Rector del Sector Telecomunicaciones posible Estándar Aplicable País e Implicaciones Tecnológicas, Industriales, Comerciales y Sociales de Transición*, Executive Decree No. 36009 MP-MINAET, of April 29th, 2010, published in the Official Gazette No. 100, on May 25th, 2010
- (v) Regulation issued by ARESEP, regarding the protection of consumers of telecommunication services, *Reglamento sobre el Régimen de Protección al Usuario Final de los Servicios de Telecomunicaciones*, Regulation No. 10, of March 10th, 2010, published in the Official Gazette No. 72, on April 15th, 2010.
- (vi) Executive Decree regarding the protection of privacy in telecommunications, *Reglamento sobre Medidas de Protección de la Privacidad de las Comunicaciones*, Executive Decree No. 35205 - MINAET, of April 16th, 2009, published in the Official Gazette on May 18th, 2009.

Annex 1. 2 Costa Rica Trade Partners

Stylized facts on regional trade patterns

| Export as percent of total (FOB) | | | | | | |
|----------------------------------|----------------------|------|------|------|------|------|
| | | 1980 | 1990 | 2000 | 2010 | 2012 |
| Costa Rica | to CA | 21% | 21% | 14% | 14% | 32% |
| | to US | 39% | 38% | 55% | 46% | 34% |
| | to rest of the World | 40% | 41% | 31% | 40% | 34% |
| Dominican Republic | to CA | 4% | 2% | 1% | 0.1% | 0.2% |
| | to US | 53% | 57% | 87% | 67% | 46% |
| | to rest of the World | 43% | 41% | 12% | 33% | 53% |
| El Salvador | to CA | 42% | 40% | 27% | 32% | 29% |
| | to US | 47% | 49% | 66% | 34% | 42% |
| | to rest of the World | 12% | 12% | 7% | 34% | 29% |
| Guatemala | to CA | 32% | 33% | 33% | 28% | 31% |
| | to US | 40% | 39% | 36% | 41% | 29% |
| | to rest of the World | 28% | 28% | 30% | 31% | 40% |
| Honduras | to CA | 21% | 24% | 24% | 4% | 12% |
| | to US | 35% | 37% | 57% | 63% | 53% |
| | to rest of the World | 45% | 39% | 19% | 33% | 35% |
| Nicaragua | to CA | 11% | 12% | 28% | 15% | 20% |
| | to US | 56% | 53% | 42% | 11% | 39% |
| | to rest of the World | 33% | 35% | 30% | 74% | 42% |
| Panama | to CA | 13% | 15% | 17% | 13% | 16% |
| | to US | 21% | 30% | 49% | 46% | 58% |
| | to rest of the World | 66% | 55% | 34% | 41% | 26% |

Source: Direction of Trade Statistics, IMF

| Imports as percent of total (CIF) | | | | | | |
|-----------------------------------|------------------------|------|------|------|------|------|
| | | 1980 | 1990 | 2000 | 2010 | 2012 |
| Costa Rica | from CA | 8% | 7% | 9% | 9% | 17% |
| | from US | 51% | 47% | 36% | 41% | 34% |
| | from rest of the World | 42% | 46% | 55% | 50% | 49% |
| Dominican Republic | from CA | 3% | 4% | 3% | 1.9% | 1.5% |
| | from US | 40% | 41% | 61% | 41% | 45% |
| | from rest of the World | 57% | 55% | 37% | 57% | 54% |
| El Salvador | from CA | 22% | 23% | 20% | 18% | 35% |
| | from US | 38% | 37% | 52% | 44% | 20% |
| | from rest of the World | 40% | 41% | 29% | 38% | 45% |
| Guatemala | from CA | 14% | 14% | 15% | 9% | 14% |
| | from US | 38% | 37% | 41% | 40% | 35% |
| | from rest of the World | 47% | 48% | 44% | 52% | 51% |
| Honduras | from CA | 24% | 19% | 24% | 9% | 11% |
| | from US | 44% | 41% | 48% | 44% | 42% |
| | from rest of the World | 32% | 41% | 28% | 47% | 46% |
| Nicaragua | from CA | 26% | 27% | 29% | 19% | 36% |
| | from US | 19% | 24% | 28% | 15% | 28% |
| | from rest of the World | 55% | 49% | 43% | 66% | 37% |
| Panama | from CA | 11% | 11% | 8% | 6% | 5% |
| | from US | 34% | 38% | 38% | 43% | 37% |
| | from rest of the World | 54% | 50% | 55% | 51% | 58% |

Source: Direction of Trade Statistics, IMF

Gravity model

Introduction and Literature

Models called gravity models are extensively used in trade literature to explain econometrically the *ex-post* effects of economic integration agreements on trade flows. The “gravity model” name is derived from its resemblance to Newton’s law of gravity and in it, trade flows between countries are described as an economic function of their incomes or “sizes”, physical distances between them and trade barriers, among others. The studies of Anderson (1979) and Bergstrand (1985) provided early formal theoretical foundations for the gravity equation based on utility and profit maximization. Given the solid microeconomic foundations underlining the general model, the gravity model is among the most comprehensive models used in the trade literature.

An empirical application of Bergstrand’s theoretical foundation of the gravity model was used by Gould (1988) to determine the effects on trade flows of the North American Free Trade Agreement (NAFTA) between the US, Canada and Mexico. Gould used a bilateral approach to the gravity model and estimated the effects of NAFTA on exports and imports between US and Canada, US and Mexico and Canada and Mexico, separately.

Following Gould (1988), the current study applies the gravity model to a case of bilateral trade flows between Costa Rica and US using a time series sample in order to determine the effects of CAFTA-DR on exports from Costa Rica to the US and imports from the US to Costa Rica. As the physical distance between Costa Rica and the US does not vary over time, the measure of “distance” is not included in the underlining model for this study.

Within the Costa Rica context the study of Jaramillo and Lederman (2006) provided a preliminary assessment of the expected trade and nontrade benefits of CAFTA-DR in the moment it was signed in 2004 and while it was being negotiated. Their study, drawing from different approaches and methodologies, concluded that CAFTA-DR was likely to generate greater trade levels arising from the removal of most tariff and quota barriers among all the parties involved in the agreement. This in turn would improve growth levels.

Four years after the ratification of the CAFTA in Costa Rica in 2009, the present study provides some empirical evidence of the effects of the FTA on Costa Rican trade flows. This evidence corroborates, to a certain extent, the assessment of the potential trade benefits found in Jaramillo and Lederman (2006). Furthermore, the study provides a simple but comprehensive framework to evaluate the increases in trade flows that occurred due to the CAFTA and evaluate their magnitude and importance.

The findings of this study have to be read with caution and can only be seen as an indication of a link between CAFTA-DR and trade flows. The reasons difficulties in identifying and disentangling the effects from CAFTA-DR and earlier trade agreements as well as simultaneous events such as the global financial and economic crisis.

Data

The data to be used in the gravity model is quarterly data for the 1997-2013 period. For trade flows the value (in millions of USD) of exports and imports of goods between Costa Rica and the US is used as provided by the Central Bank of Costa Rica. As discussed, the gravity model includes the size of the economy, the most comprehensive measure to account for this is real gross domestic product (GDP) of Costa Rica (in millions of 1991 colones) and the real GDP of the US (billions of 2009 USD). In order to

control for prices the GDP price deflator for Costa Rica and the US is used. In order to control for Costa Rica's external conditions with the US and the rest of the world the real effective exchange rates between Costa Rica and the US and between Costa Rica and the rest of the world (excluding the US), respectively is used.¹⁹¹

Model

To assess the effects of CAFTA since its signing the following benchmark gravity model of Costa Rican and US bilateral trade flows is estimated using quarterly data from 1997 through 2013 (first quarter). The empirical equations are based on the application of the gravity model found in Gould (1988), which is derived from standard microeconomic foundations of Bergstrand (1985). All variables are seasonally adjusted quarterly data and are expressed in log first-differences (growth rates):

$$(1) \quad X_t^{ij} = \alpha_0 + \alpha_1 X_{t-q_1}^{ij} + \alpha_2 GDP_{t-q_2}^i + \alpha_3 GDP_{t-q_3}^j + \alpha_4 P_{t-q_4}^i + \alpha_5 P_{t-q_5}^j + \alpha_6 E_{t-q_6}^{ij} \\ + \alpha_7 E_{t-q_7}^{iw} + \alpha_8 D_t + \alpha_9 NAFTA_t + \varepsilon_t$$

$$(2) \quad M_t^{ij} = \beta_0 + \beta_1 M_{t-p_1}^{ij} + \beta_2 GDP_{t-p_2}^i + \beta_3 GDP_{t-p_3}^j + \beta_4 P_{t-p_4}^i + \beta_5 P_{t-p_5}^j + \beta_6 E_{t-p_6}^{ij} \\ + \beta_7 E_{t-p_7}^{iw} + \beta_8 D_t + \beta_9 NAFTA_t + \mu_t$$

The variables are defined as follows: X^{ij} is country i 's (Costa Rica) exports to country j (US); t refers to the quarterly date; q_n (where $n=1,2,\dots,7$) refers to the number of periods each individual independent variable in equation (1) is lagged¹⁹²; p_n (where $n=1,2,\dots,7$) refers to the number of periods each individual independent variable in equation (2) is lagged¹⁹³; M^{ij} is country i 's (Costa Rica) imports from country j (US); GDP^i is real gross domestic product of country i and GDP^j is real gross domestic product of country j ; P^i is the GDP price deflator of country i and P^j is the GDP price deflator of country j ; E^{ij} is the real effective exchange rate between country i and country j and E^{iw} is the real effective exchange rate between country i and the rest of the world (excluding country j). D_t represents other free trade agreements signed by Costa Rica during the period 1997-2013. *CAFTA* is a binary variable representing the period in which CAFTA-DR was signed¹⁹⁴ in Costa Rica (August 5, 2004). CAFTA equals 1 beginning the third quarter of 2004 and 0 before that.

Three different regressions were estimated for both the equation on exports (1) and imports (2). These three different regressions include different dummies for CAFTA: (i) CAFTA starting in 2004 (CAFTA₀₄); (ii) two different CAFTA dummies for when it was signed 2004 and for its ratification in 2009 (CAFTA₀₄ and CAFTA₀₉, respectively) and; (iii) only CAFTA when it was ratified (CAFTA₀₉). The size and statistical significance of the CAFTA coefficients tell us the degree to which CAFTA affects bilateral trade flows in Costa Rica.

Methodology & Results

¹⁹¹ The real effective exchange rate between the US and the rest of the world was calculated using Costa Rica's 13 main trading partners and using their respective consumer price indices.

¹⁹² The methodology used to determine these lags and select the model is discussed in the Methodology section.

¹⁹³ Ibid.

¹⁹⁴ Although CAFTA was not ratified until five years later in January 1st, 2009, the effects on trade were evidenced since its signing in 2004.

The Box-Jenkins methodology was used in order to determine the lag structure and select the model's underlining equations (1) and (2). This methodology, after identifying the variables' stationarity and correcting for seasonality, consists of using plots for autocorrelation and partial autocorrelation to decide which autoregressive components and lags of the independent variable should be used in the model.

The results of the model selection for equations (1) and (2) using the Box-Jenkins methodology are presented below:

Equation (1): $q_1=1, q_2=4, q_3=1, q_4=1, q_5=1, q_6=1, q_7=1$

Equation (2): $p_1=4, p_2=2, p_3=3, p_4=2, p_5=1, p_6=4, p_7=4$

Once the lag structure is determined for models (1) and (2) they are estimated by ordinary least squares (OLS). The results are presented in tables 1 and 2 of the Appendix.

Having estimated the sign and magnitude of the effects of CAFTA on exports we are able to show how trade trends would have changed without the existence of the agreement. Figure 1 and 2 show CAFTA's estimated effect on bilateral trade flows (exports and imports, respectively) between Costa Rica and the US. As the dotted line in Figure 1 indicates, exports to the US are estimated to have been greater than they would have had there not been a free trade agreement. This result is highly significant although in terms of magnitude it is relatively small as each quarter the effect of CAFTA is estimated to have increased export growth by 5.6%.¹⁹⁵ Similarly for imports, as the dotted line in Figure 2 indicates, imports from the US are estimated to have been greater than they would have had there not been a free trade agreement. However, this effect was not significant.

¹⁹⁵ For the semi-logarithmic functional form presented in model (1) the coefficient associated to the CAFTA dummy cannot be interpreted as the percentage impact on the log first difference of X of a change in the dummy variable CAFTA from 0 to 1 status. The correct expression for this percentage change impact is $e^{\alpha_9} - 1$.

Table 1. OLS estimation of equation (1) Exports

| | (i) | (ii) | (iii) |
|------------------------|-----------------------|----------------------|----------------------|
| VARIABLES | X_t^{ij} | X_t^{ij} | X_t^{ij} |
| X_{t-1}^{ij} | -0.491*** (0.113) | -0.491*** (0.114) | -0.446*** (0.119) |
| GDP_{t-1}^i | -0.677 (0.760) | -0.676 (0.775) | -0.240 (0.800) |
| GDP_{t-2}^i | 1.320* (0.720) | 1.321* (0.737) | 1.516* (0.775) |
| GDP_{t-3}^i | 0.978 (0.724) | 0.979 (0.748) | 1.248 (0.783) |
| GDP_{t-4}^i | -1.816*** (0.630) | -1.815*** (0.641) | -1.840*** (0.678) |
| GDP_{t-4}^j | 2.371* (1.363) | 2.370* (1.388) | 1.152 (1.379) |
| P_{t-1}^i | -1.122*** (0.405) | -1.122*** (0.415) | -1.100** (0.439) |
| P_{t-1}^j | 1.810 (3.218) | 1.820 (3.832) | 5.966 (3.675) |
| E_{t-1}^{ij} | -0.335 (0.514) | -0.336 (0.536) | -0.0884 (0.558) |
| E_{t-1}^{jw} | 0.261** (0.103) | 0.261** (0.106) | 0.265** (0.112) |
| CAFTA ₀₄ | 0.0543*** (0.0177) | | |
| CAFTA ₀₄₋₀₉ | | 0.0542** (0.0211) | |
| CAFTA ₀₉ | | 0.0544** (0.0228) | 0.0351 (0.0228) |
| Constant | -0.0193 (0.0218) | -0.0193 (0.0270) | -0.0225 (0.0286) |
| Observations | 59 | 59 | 59 |
| R-squared | 0.489 | 0.489 | 0.416 |

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 2. OLS estimation of equation (2) Imports

| | (i) | (ii) | (iii) |
|----------------|----------------------|----------------------|----------------------|
| VARIABLES | M_t^{ij} | M_t^{ij} | M_t^{ij} |
| M_{t-1}^{ij} | -0.154 (0.122) | -0.162 (0.122) | -0.162 (0.120) |
| M_{t-2}^{ij} | -0.100 (0.120) | -0.111 (0.120) | -0.111 (0.118) |
| M_{t-3}^{ij} | -0.0341 (0.117) | -0.0524 (0.118) | -0.0524 (0.116) |
| M_{t-4}^{ij} | -0.600*** (0.117) | -0.595*** (0.117) | -0.595*** (0.115) |
| GDP_{t-1}^i | 2.863** (1.217) | 3.021** (1.229) | 3.021** (1.191) |
| GDP_{t-2}^i | 2.702** (1.176) | 2.396* (1.219) | 2.397** (1.158) |
| GDP_{t-1}^j | 3.288* (1.813) | 3.264* (1.815) | 3.264* (1.789) |
| GDP_{t-2}^j | 0.352 (1.768) | 0.407 (1.771) | 0.406 (1.620) |
| GDP_{t-3}^j | -5.520*** (1.689) | -5.604*** (1.693) | -5.605*** (1.604) |
| P_{t-1}^i | 1.835*** (0.609) | 1.697** (0.626) | 1.698*** (0.599) |
| P_{t-2}^i | 1.359** (0.651) | 1.163* (0.683) | 1.164* (0.654) |
| P_{t-1}^j | -6.641 (5.024) | -8.962 (5.576) | -8.958* (5.040) |
| E_{t-1}^{ij} | -0.393 (0.829) | -0.211 (0.851) | -0.211 (0.825) |
| E_{t-2}^{ij} | 1.559** (0.754) | 1.679** (0.765) | 1.679** (0.755) |
| E_{t-3}^{ij} | 1.165 (0.729) | 1.016 (0.746) | 1.017 (0.730) |
| E_{t-4}^{ij} | 1.089 (0.707) | 1.187 (0.715) | 1.187* (0.690) |

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table 2. (Continued)

| VARIABLES | M_t^{ij} | M_t^{ij} | M_t^{ij} |
|------------------------|----------------------|----------------------|----------------------|
| E_{t-1}^{iw} | 0.176 (0.112) | 0.155 (0.114) | 0.155 (0.112) |
| E_{t-2}^{iw} | -0.303** (0.116) | -0.318*** (0.117) | -0.318*** (0.113) |
| E_{t-3}^{iw} | -0.275** (0.122) | -0.284** (0.123) | -0.284** (0.117) |
| E_{t-4}^{iw} | -0.548*** (0.164) | -0.532*** (0.165) | -0.532*** (0.159) |
| CAFTA ₀₄ | -0.0109 (0.0263) | | |
| CAFTA ₀₄₋₀₉ | | 5.84e-05 (0.0287) | |
| CAFTA ₀₉ | | -0.0300 (0.0330) | -0.0300 (0.0282) |
| Constant | -0.0424 (0.0297) | -0.0202 (0.0376) | -0.0202 (0.0368) |
| Observations | 59 | 59 | 59 |
| R-squared | 0.679 | 0.687 | 0.687 |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1