IDB WORKING PAPER SERIES No. IDB-WP-157

Productive Development Policies in Costa Rica:

Market Failures, Government Failures, and Policy Outcomes

Ricardo Monge-González
Luis Rivera
Julio Rosales-Tijerino

March 2010

Inter-American Development Bank
Department of Research and Chief Economist

Productive Development Policies in Costa Rica:

Market Failures, Government Failures, and Policy Outcomes

Ricardo Monge-González*
Luis Rivera**
Julio Rosales-Tijerino**

* Instituto Tecnológico de Costa Rica and CAATEC
** CAATEC and Ecoanálisis

Inter-American Development Bank
2010

Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library

Monge González, Ricardo.
Productive development policies in Costa Rica : market failures, government failures, and policy outcomes / Ricardo Monge González, Luis Rivera, Julio Rosales Tijerino.
p. cm. (IDB working paper series ; 157)
Includes bibliographical references.
1. Costa Rica—Economic policy. 2. Industrial productivity—Costa Rica. 3. Industrial policy—Costa Rica. I. Rivera, Luis. II. Rosales Tijerino, Julio. III. Inter-American Development Bank. Research Dept. IV. Title. V. Series.

HC143.E3 M66 2009

Abstract[1]

This paper analyzes five Productive Development Policies (PDPs) implemented in Costa Rica, finding that they are not optimally addressing market failures. Moreover, government failures rather than market failures represent the main justification for PDPs. Even in the presence of market failures, the policy instruments applied are not necessarily the most economically efficient but rather the most politically feasible options. In addition, the lack of policy evaluation and monitoring prevents adjustments and corrections of such policies. Addressing the arguments for policy intervention and incorporating the results of evaluation into policy design and reform are necessary conditions for success. In spite of positive policy outcomes, limitations to enhance competitiveness and create the conditions for productivity growth are still present. An *umbrella* approach in the case of those PDPs that reinforce each other is necessary for productivity growth.

JEL Classification: D78, L52
Keywords: Policy Analysis, Policy Making, Industrial Policy, Costa Rica

[1] This research project was developed under the Inter-American Development Bank's Country Studies Initiative: "Industrial Policies in Latin America and the Caribbean." We thank our interviewees for their help and for the information provided. Workshop participants in Washington, D.C. and Rio de Janeiro contributed valuable comments and suggestions on earlier versions of this document. We are grateful for research assistance from Natalia Sánchez. Ricardo Monge-González is Professor of Economics at Instituto Tecnológico de Costa Rica and Executive Director of the High Technology Advisory Committee Foundation Costa Rican High Technology Advisory Committee Foundation (CAATEC). Luis Rivera is an Associate Researcher at CAATEC and Consultant at Ecoanálisis. Julio Rosales-Tijerino is Associate Researcher at CAATEC and Project Director at Ecoanálisis. The authors are solely responsible for any errors or omissions.

Acronyms

AZOFRAS	EPZs Private Association (Asociación de Zonas Francas)
BCCR	Central Bank of Costa Rica (Banco Central de Costa Rica)
CACM	Central American Common Market
CINDE	Costa Rican Investment Promotion Agency (Coalición Costarricense de Iniciativas de Desarrollo
CGR	Comptroller General (Contraloría General de la República)
COMEX	Ministry of Trade (Ministerio de Comercio Exterior)
CONARE	National Council of Rectors (Consejo Nacional de Rectores)
CONICIT	National Council of Science and Technology Research (Consejo Nacional de Investigaciones Científicas y Tecnológicas)
CRP	Costa Rica Supplies (Costa Rica Provee)
EPZ	Export Processing Zone
FDI	Foreign Direct Investment
IADB	Inter-American Development Bank
ICT	Costa Rica Tourism Institute (Instituto Costarricense de Turismo)
ISIS	Import Substitution Industrialization Strategy
MEIC	Ministry of Industry (Ministerio de Economía, Industria y Comercio)
MICIT	Ministry of Science and Technology (Ministerio de Ciencia y Tecnología)
MINAET	Ministry of the Environment (Ministerio de Ambiente, Energía y Telecomunicaciones)
MNC	Multinational Company
PDP	Productive Development Policy
PROCOMER	Foreign Trade Corporation of Costa Rica (Promotora del Comercio Exterior de Costa Rica)
SME	Small and Medium Enterprise
TFP	Total Factor Productivity

1. Introduction

The traditional discussion on industrial policy or Productive Development Policies (PDPs) in developing countries has focused on "whether" rather than "how" the government should be involved in trying to correct market failures that impede the efficient allocation of productive resources, goods and services (Rodrik, 2007). Melo and Rodríguez-Clare (2006) define PDPs as policies that aim to strengthen the productive structure of a particular national economy.[2]

In a broader sense, PDPs should be designed to improve the quality of the national business climate. As long as a sound business development and competitiveness strengthening process is created, market forces should play the central role in the efficient allocation of productive resources and productivity growth. However, upgrading competitive capacity and shifting factors of production is time and resource consuming and requires much investment. An active role of government could facilitate the resource allocation process. The debate on the case for targeted interventions is based on the existence of various kinds of market failures, which would justify the design and implementation of industrial policies, in order to enhance the productive capacity of a country.

Generally speaking, Costa Rica has implemented PDPs for decades. For instance, during the 1960s and 1970s, the country adopted PDPs based on industrial protectionism and the entrepreneurial state model. After the economic crisis at the beginning of the 1980s, Costa Rica did not abandon industrial policy interventions, but its scope and objectives changed. New PDPs shifted to the promotion of non-traditional exports to third markets (outside the Central American market), which implied a change in policy instruments, sector targets, and beneficiaries.

Aggregate productivity (total factor productivity, TFP) growth is a key factor for sustained economic growth. The evidence suggests that on average, Latin American countries are underperformers in terms of TFP growth when compared to developed countries and other successful developing nations. Costa Rica is not an exception,

[2] This definition includes any measure, policy, or program aimed at improving the growth and competitiveness of large sectors of the economy (manufacturing, agriculture); specific sectors (textiles, automobile industry, software production, etc.); or the growth of certain key activities (research and development, exports, fixed capital formation, human capital formation).

notwithstanding its relative success compared to other countries of the region (Ferreira et al., 2008). Contrary to outstanding developing country cases (i.e., Ireland, Chile, the Asian Tigers) it seems that the sustained productivity growth impact of PDPs in Costa Rica has not been as strong as expected in order to catch up with global over-performers.

This document evaluates the extent to which PDPs correctly addressed market failures. Additionally, an implementation analysis is conducted to identify possible agency problems and institutional coordination failures. It identifies possible government failures resulting from non-optimal or wrongly implemented PDPs. In this way, the study aims to contribute to a better understanding of how industrial policy should be undertaken in order to promote productivity improvements.

Five illustrative examples of Productive Development Policies (PDPs) implemented in Costa Rica are presented. The study does not attempt to assess the welfare effects of those policies from an economic perspective. Rather, the main objectives are: a) to analyze whether existing PDPs are justifiable in terms of the market or government failures they address; b) to evaluate the public capacities to correct these failures (with a discussion of the adequacy of the institutional setting and agencies in charge of implementing these policies); c) to make a political economy analysis of the main forces and interest groups influencing the design and implementation of selected PDPs; and d) to elaborate a general proposal for policy reform and new directions for outcome improvements.

The paper is organized as follows: after the introduction, Section 2 presents the general picture of PDPs in Costa Rica, describing the policies selected for this study. Section 3 presents a summary of the analytical framework. Sections 4 to 8 include the analysis of each PDP. The final sections elaborate the main lessons learned and conclusions.

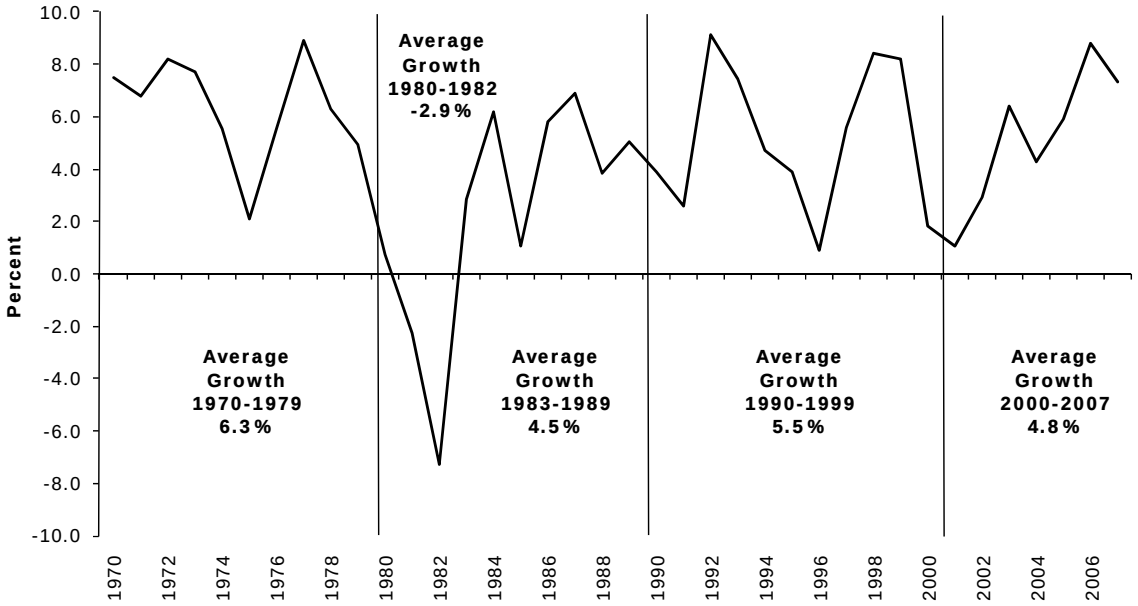
2. Productive Development Policies in Perspective

2.1. Recent Economic Growth in Costa Rica

Successful PDPs should foster productivity and enhance economic growth. Growth in Costa Rica has been positive in recent decades, with the notorious exception of the 1980-82 crisis (Figure 1). In addition, the general growth path has been erratic. During the 1970s, the country grew at an average annual rate of 6.3 percent, even taking into account years of contractions related to the oil shocks (at the beginning and the end of the decade) and low

international coffee prices (during the mid-1970s). In the 1980s, growth averaged 2.3 percent, while the 1990s experienced a higher rate (5.5 percent). After year 2000, economic growth has been slower (4.8 percent on average).

Figure 1. Costa Rica: Real GDP Growth (1970-2007)



Source: Authors' calculations using data from the Central Bank of Costa Rica.

Taking into account the evidence cited above, a question that arises is: How do economies grow? The literature indicates two main sources of growth: factor accumulation and productivity growth (TFP). The first source includes physical and human capital and labor force growth. The second source includes technological progress (creation and transfer of knowledge) and efficiency improvements (the quality of the institutional framework). The same literature points out the higher relevance of productivity growth (TFP changes) compared to factor accumulation in explaining growth performance differences among countries (Caselli, 2005; Helpman, 2004; Klenow and Rodríguez-Clare, 1997).

Recently, Ferreira et al. (2008) show that in the last two decades (after the mid-1980s), outstanding growth cases were mainly the result of productivity growth. In the case of Latin America, growth in the 1970-2000 period resulted mainly from factor

accumulation (investment in physical and human capital).[3] Growth variance is explained by productivity changes. Thus, the evidence suggests a reversal of the relative importance of productivity versus factor accumulation in recent years, compared to previous decades.

The evidence for Costa Rica indicates moderate performance in terms of productivity contribution to growth. Robles-Cordero and Rodríguez-Clare (2002) found that the Costa Rican economy showed average productivity growth rates of 1.6 percent between 1985 and 1990 (the period of major economic reforms and new PDP implementation), 2.7 percent between 1990 and 1995, and 1.6 percent between 1995 and 2001.[4]

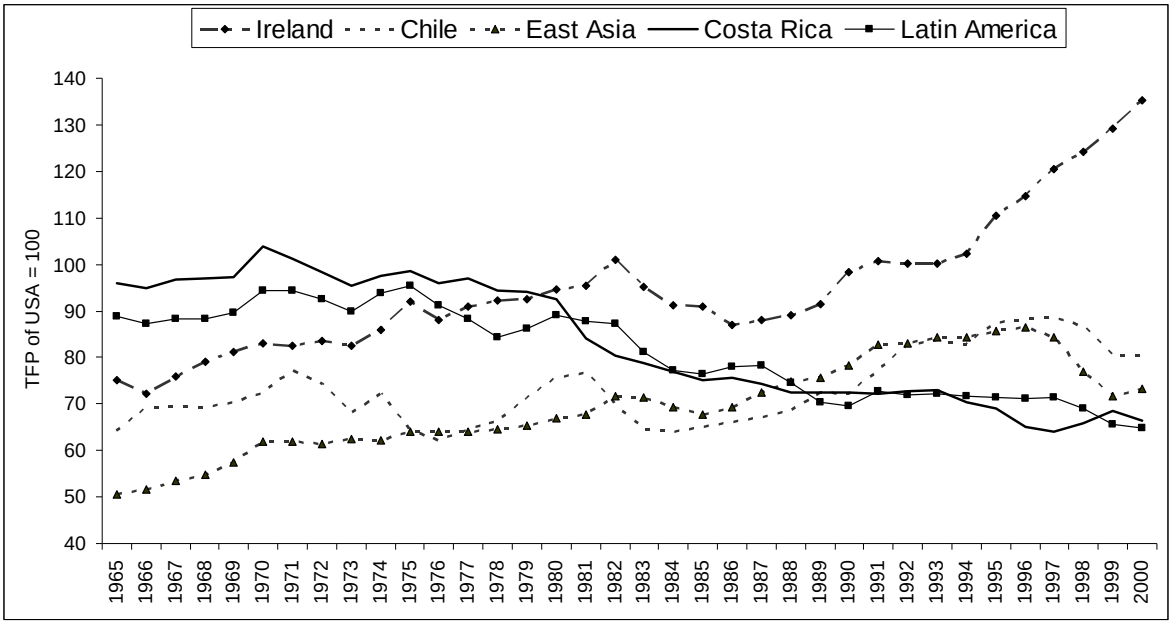
Using recent data, Jiménez, Robles, and Arce (2009) confirm those results and show a declining contribution of productivity to economic growth, on average, for the current decade. Historically, factor accumulation has been the most relevant determinant of real GDP growth for Costa Rica. Productivity growth has been positive but erratic. Notwithstanding, Daude and Fernández-Arias (2008) indicate that Costa Rica is one of the few Latin American nations showing positive productivity growth relative to other developing countries for the 1995-2004 period.

When compared to leading technological nations, Costa Rica's productivity is not converging. For instance, Ferreira et al. (2008) show that outstanding performers like Ireland, the Asian Tigers and Chile have been catching up in recent years to the United States, while Costa Rica has shown the opposite trend, similar to Latin America's performance overall (Figure 2). These results are relevant, since, as explained in the next section, Costa Rica has been very active in designing and implementing PDPs. The productivity performance could suggest a limited impact of those PDPs for productivity improvements and fostering economic growth.

[3] In the case of Costa Rica, Rodríguez-Clare et al. (2004) report a higher TFP contribution to growth in the 1960s and 1970s (during the import substitution and entrepreneurial state years) than in the trade openness and structural reform period (1984-2000).

[4] The authors arrived at this result by deconstructing the growth rates of the Costa Rican economy during the liberalization period into three parts, corresponding to growth that could be attributed to accumulation of physical capital, the increase in the labor force, and total factor productivity (TFP) growth. Other authors reach similar conclusions. For instance, Loayza et al. (2004) report a negative contribution of TFP for the 1981-1990 period (-0.92) and 1.98 for 1991-2000. Rodríguez-Clare et al. (2004) report a TFP contribution between 0.12 and 1.04 for the 1984-2000 period (using three different model specifications).

Figure 2. Total Factor Productivity Relative to United States



Source: Authors' compilation with data from Ferreira et al. (2008)

As stated by Noland and Howard (2003), "for selective government intervention or industrial policy to be welfare improving, policymakers must identify market failures that would provide the scope for welfare-enhancing interventions, design and implement the appropriate interventions, and correct or terminate the applied policy as changing circumstance warrant" (pp. 15-16). This study analyzes the design of PDPs in order to assess the extent to which these policies have correctly addressed market failures.

This study will show that in Costa Rica, for the most part, government failures rather than market failures have been the main justification for PDPs. Even in the presence of market failures, the instruments applied in the policy design are not necessarily the most efficient (according to economic theory), but rather the most politically feasible options (lower political cost). Moreover, lack of policy evaluation and monitoring prevents the required adjustments and corrections of such policies in accordance with changing circumstances.

2.2. A Brief History of PDPs in Costa Rica

The history of PDPs in Costa Rica is characterized by significant change over the past three decades.[5] The country followed an inward-oriented economic strategy during the 1960s, 1970s, and part of the 1980s, restricting the imports of goods in order to protect local industries.[6] As a result, these policies created a significant anti-export bias that impeded technological change, production diversification, and the growth of exports to third markets. Together with the international economic problems that occurred at the end of the 1970s (second oil shock, high international interest rates, and debt crises), these policies led the country to a deep economic recession in the 1980-1982 period, with high levels of inflation and unemployment and overall poor economic performance.

Costa Rica participated fully in the Central American Common Market (CACM) and the Import Substitution Industrialization Strategy (ISIS), placing high tariffs on imports of capital goods and manufactured goods and awarding "industrial contracts" that virtually guaranteed the profitability of the winners of those contracts. This particular model, its costs and benefits, have been thoroughly discussed in the development literature.[7]

Simultaneously, Costa Rica continued its agricultural export activities, mainly bananas, coffee, and sugar. It is worth noting that Costa Rica went well beyond the general characteristics of the ISIS. During the Oduber Administration (1974-78), the country launched an ambitious program for the development of a whole array of for-profit but publicly owned enterprises under the umbrella of CODESA (Corporación Costarricense de Desarrollo S.A), a holding company that at different times owned a sugar mill, a cement factory, an aluminum processing plant, and several other companies. The premise was that the Costa Rican private sector was too small to be able to compete with transnational

[5] Rodríguez-Clare et al (2004) suggest five sub-periods of the recent economic history of Costa Rica: a) transition from the agricultural exporting model to the import substitution model (1950-1963); b) incorporation into the Central American Common Market (CACM): 1963-1973; c) entrepreneurial state and unsustainable macroeconomic policy: 1973-1980; d) crisis and stabilization: 1980-1984; and e) export promotion model and initial structural reforms: 1984-2000. Since the year 2000, export diversification through the attraction of FDI and the consolidation of Free Trade Agreements have marked a distinct period.

[6] This is known as the Import Substitution Industrialization Strategy (ISIS), promoted by the Economic Commission for Latin America and the Caribbean (ECLAC).

[7] Following Lerner's Theorem (1936), Monge-González and González-Vega (1994) estimated that 66 percent of tariff protection granted to Costa Rica's manufacturing sector during the import-substitution period was transferred as an implicit tax to the country's exporting sector.

corporations and could never achieve the size (production volumes) required to take advantage of economies of scale.

In theory, businesses promoted under CODESA would be sold to the private sector once they matured. However, mismanagement of these companies resulted in massive losses, eventually transferred to the Central Bank. According to Fintra (1993), none of the public enterprises developed under the umbrella of CODESA reported significant profits or showed any important performance. Moreover, the original objectives of business growth promotion and employment creation were not achieved.

A third leg of PDPs in the pre-crisis period (1960s and 1970s) was credit rationing and direct (nominal) interest rate controls by the Central Bank. The Central Bank controlled sector-specific credit quotas and interest rates through the public banks, which at the time had a monopoly on checking accounts and savings deposits and a virtual monopoly on the supply of credit to the private sector.

At the same time, a large and complex system of agricultural price supports, on the one hand, and consumer goods price controls, on the other, was put in place.[8] The government built and managed a system of storage facilities and grocery shops, while "Price Inspectors," working for the Ministry of the Economy, did their best to ensure that retail prices were not above the price limits. The agricultural sector was also the beneficiary of a technical assistance package managed by the Ministry of Agriculture.

Using the Inter-American Development Bank's PDP combination matrix (2008), the group of PDPs described can be mapped according to their dimension and channel of intervention. Figure 3 depicts the classification in each quadrant. From a broad perspective, during the 1960s and 1970s, government interventions focused mainly on direct market interventions. Some of them were of a horizontal nature, while many others were vertical, favoring specific sectors and productive activities.

[8] Corrales (1985) made an assessment of price controls and agricultural subsidies and concluded that those policy instruments were creating significant distortions that reduced welfare and affected consumers and small producers in particular.

Figure 3. Costa Rica: Sample of "Old" PDPs (Implemented in the 1960s and 70s)

	Horizontal	Vertical
Public Input		
Market Intervention	• **Import Substitution Industrialization Strategy (ISIS)**	• **Credit Quotas and Interest Rate Controls** • **Agricultural Price Support Mechanism (Traditional Crops)** • **Corporación Costarricense de Desarrollo CODESA (State-owned firms)**

Source: Authors' compilation based on IDB (2008).

Unlike some other Latin American countries that tended to abandon PDPs in the 1980s (the "lost decade") in favor of market-based mechanisms, Costa Rica never did so. Instead, the country radically switched the orientation of PDPs to other instruments, sectors, and target markets. Therefore, PDPs were not really abandoned (in spite of all the rhetoric about reducing government intervention in the economy). Emphasis was placed on export-oriented sectors and financial instruments, mostly in the form of tax incentives of different kinds, instead of direct price setting and other similar mechanisms used before the 1980-82 crisis. The main changes experienced by the (old) PDPs described before were the following:

- Sale (privatization) of CODESA's public firms (and cancellation of the program).
- The credit rationing system was dismantled. Interest rates were liberalized. In addition, the private banks' participation increased, with access to checking and savings accounts management.

- The public sector storage facilities and grocery stores were closed; price supports (for producers) and price controls (for consumers) were dismantled. Notwithstanding these actions, significant import protection for selected agricultural products is still in place.
- The scope and activities of the Ministry of the Economy, formerly in charge of industrial contracts and price controls, were drastically reduced. Those contracts were eliminated. Currently, rice is the only product subject to a price control system.
- A new system of incentives to promote non-traditional exports to third markets (outside of Central America) was established. The purpose was to compensate the anti-export bias created by the Import Substitution Industrialization Strategy.
- A unilateral but not uniform tariff reduction policy was implemented starting in the mid-1980s. Since mid-1990s, trade liberalization has been driven by free trade agreements implementation. However, some activities are still protected, and price distortions remain (Monge-González et al., 2005).

In contrast to "old style PDPs," the new ones emphasized economic incentives rather than targeting credit, providing technical assistance, or supplying specific public goods. Non-traditional exports received fiscal credits, the so called *Certificados de Abono Tributario* (CATs). In addition, special instruments were set for the tourism industry (such as tax exemptions on imported inputs and tourism contracts). Income tax exemptions for both non-traditional exports and Export Processing Zones (EPZs) exporting companies were established.

It is clear that Costa Rican economic policy for more than two decades has moved decidedly toward ever-greater integration into the world economy. In the past decade, trade policy has been based on Free Trade Agreements (FTAs). The country has signed FTAs with the United States, Canada, Mexico, Chile, the Dominican Republic, and Caribbean countries. The ratification of an Association Agreement with the European Union is expected in 2010, and negotiations for a Free Trade Agreement with China are on course.

Parallel to the export promotion strategy of the last two decades, the attraction of foreign direct investment (FDI) has been a pillar for growth. The creation of CINDE (*Coalición Costarricense de Iniciativas de Desarrollo*) at the beginning of the 1980s was a key achievement. CINDE is a private organization dedicated to attract FDI and supporting the process of the new export-led economic model. A wide range of industries, including electronic components, electrical equipment, medical devices, software, chemical products, beverages and food preparations, tourism, financial services, call centers, have been growing and attracting significant foreign investment.

While export promotion and FDI attraction are the most relevant policies developed in recent years, other PDPs have also been implemented. One example is PDPs targeting small and medium enterprises (SMEs). During the Miguel Angel Rodríguez Administration (1998-2002), awareness of the need for a new type of industrial policy for SMEs (as well as the need to coordinate multiple programs in many different organizations with limited coordination) led to the creation of *Programa Impulso*, an attempt to integrate diverse programs, including:

- Programs to create linkages between high-tech multinational companies (MNCs) and local firms (*Costa Rica Provee*).
- Programs that provided financing and credit for SMEs.
- Programs that provided technical assistance and worker training (at the National Technical Institute (INA) and the Ministry of Science and Technology).
- Technical assistance programs directed by the Ministries of the Economy and Agriculture.
- De-regulation and business creation and promotion (red-tape reduction and regulatory improvement programs), administered formally by the Ministry of the Economy, but in practice with direct connection to the Office of the President.

From another perspective, the Congress (*Asamblea Legislativa*) approved a Development Banking Bill (*Ley Sistema de Banca de Desarrollo*) in 2008, designed to facilitate access to credit by SMEs and coordinate efforts to supply other non-financial

services to those companies. A national trust fund was created in mid-2008 in order to finance new entrepreneurial and investment projects.

In the field of education, one specific PDP is worth mentioning: The National Integrated Technical Education for Competitiveness (SINETEC). This program is an initiative of the Ministry of Education, which started in 2001. The objectives of SINETEC are, among others, to make efficient use of resources for training and technical education, to promote new technical skills, and to create technical capacities required by high-tech foreign companies (MNCs).

Focusing on innovation strengthening, another PDP, the PROINNOVA initiative (developed by the University of Costa Rica) is creating capacities to increase the licensing of intellectual property rights, with patents, utility models, industrial designs, brands and copyrights. In this way, some of the most important barriers to innovation can be overcome and, at the same time, a clear dimensioning of innovation efforts consistent with the economic environment and business demands might be pursued.

In a different area, “food security” and agricultural support programs regained relevance in 2008, mainly because of the rise in international agricultural commodity prices. The discussion has been promoted mainly by the rice producers (through CONARROZ, a national organization that will be assessed later in this document). Old institutions such as the National Production Council (CNP, which managed grain storage facilities, a country-wide set of grocery stores and agricultural price support programs in the 1970s and 1980s), have recently increased their operations.

Figure 4 depicts the classification of more recent PDPs in each quadrant. Horizontal productive policies have predominated in the last two decades, both with specific public inputs (such as technical education) and market interventions. One of the most relevant PDP, as indicated before, is the promotion of non-traditional exports.

Figure 4. Costa Rica: Sample of "New" PDPs

	Horizontal	Vertical
Public Input	• **Technical Education Strengthening** • **Innovation System Support (PROINNOVA)**	
Market Intervention	• **Unilateral Trade Liberalization** • **Free Trade Agreements Negotiation** • **Development Banking** • **SMEs Promotion Policy** • **Foreign Direct Investment Attraction**	• **Non-traditional Exports Promotion**

Source: Authors' compilation based on IDB (2008).

2.3. PPDs Selected for Assessment

In this study, five Productive Development Policies (PDPs) are assessed. Figure 5 classifies them in each quadrant of the policy map. The PDPs selected are important for the purpose of this study since they are current policy priorities for the Costa Rican government. In some cases, significant resources are allocated. Additionally, there is an ongoing debate in the policy arena and academia circles regarding their institutional characteristics and the effectiveness of the responsible agencies. Reform proposals are being evaluated or promoted by the government. Moreover, while most of these policies are classified in a particular category, they do not only affect a narrow group of specific sectors or activities, but rather have a wider impact and scope of activity (even over the whole economy).

Figure 5. PDPs Selected for Analysis

	Horizontal	Vertical
Public Input		
Market Intervention	• **FDI Attraction and Export Diversification: Export Processing Zones (EPZs)** • **Technology Transfer: Backward Linkages between MNCs and Local Firms** • **R&D and other Innovation Activities: PROPYME Program**	• **New Productive Activities: Sustainable Tourism** • **Food Security and Agricultural Protection: The Case of Rice**

Source: Authors' compilation based on IDB (2008).

The main original arguments supporting these PDPs (to validate the specific government intervention), in principle, could have relied on the existence of specific market failures. On the other hand, non-failure arguments, such as egalitarian interests from the government (distributive policies), or political economy aspects (rent-seeking, vested interests) might have influenced the final policy outcome or determined the particular way each PDP was designed and implemented, and even justified.

3. Analytical Framework

3.1. Market Failures and Government Failures

A fundamental tenet of welfare economics theory suggests that when markets operate in the absence of friction, distortions and imperfections, no government intervention is needed to achieve a Pareto optimum (i.e., a situation in which no single economic agent or group can be better off without making somebody else worse off). However, when so-called *market failures* arise, the first-best outcome corresponding to the Pareto optimum can no longer be achieved through markets, and government intervention could be justified as a way of

achieving an outcome as close as possible to the Pareto optimum (i.e., a second-best outcome). Pareto optimality, it should be noted, pertains only to efficiency and not to the distributive consequences of market competition (Baron, 2003). In other cases, the arguments for government intervention could arise from egalitarian objectives or income distribution policies (Cohen, 2001).[9]

Many arguments in favor of an active government role in industrial policy design (PDP design) rely on the existence (or at least the policy maker perception) of market failures. The main issue is how to design and implement effective policies (in terms of concrete and desirable outcomes) and avoid the common mistakes of the past. Rodríguez-Clare (2005) argues that those policies should consider the specificities of the economy and address with precision the origin of market failures and the case for microeconomic interventions.

Three specific arguments for industrial policy have received particular attention. One is derived from the presence of knowledge spillovers and dynamic scale economies, a second from the presence of coordination failures, and a third from informational externalities. Because of these market failures, the supporters of selective government interventions claim that there is a need for policy to adjust the structure of production in favor of sectors that are expected to offer better prospects for economic growth in a way that would not occur in the absence of such intervention in the market equilibrium (Pack and Saggi, 2006).

However, selective interventions can be unsuccessful, while industrial policies can be wrongly designed. Two central arguments supporting this view are: a) the limited information and knowledge of the government to clearly address all details of an effective industrial policy; and b) political economy features (i.e., rent-seeking and other directly unproductive profit-seeking activities, DUPs).[10]

Pack and Saggi (2006) present a critical review of industrial policy arguments and conclude that the limited ex ante knowledge of the vast and complex information required to evaluate and compensate for market distortions can lead to wrong government interventions. In addition, Besley (2004) points out that even if there is a sound case for

[9] When income distribution improvement or other specific social targets are the main arguments for policy action, the optimal political solution might be a Pareto suboptimum.
[10] See Bhagwati (1991).

specific interventions in a particular productive sector (an "optimal" industrial policy), there are also implementation problems that should be considered. Rent-seeking and corruption, among other interest (pressure) groups' activities, can separate policies from their original targets and expected outcomes. According to the author, experience suggests many "second-best failures."

Hausmann et al. (2008) argue that market failures are the rule more than the exception in developing countries. Those market failures demand specific interventions that have different impacts on some productive activities than others. The authors indicate that imperfect knowledge of specific market distortions (both from public and private actors) creates the need for an "identification" policy process. Industrial policies would (and probably *should*) result from this process. The formulation of an identification strategy is, however, a controversial issue.

Like markets, governments can fail. Selected interventions and industrial policy could cause a more inefficient allocation of goods and resources than would occur in the absence of government action. A *government failure* can be defined as a policy choice leading to a distortion that prevents markets from reaching a Pareto optimum. According to Winston (2006), a government failure arises when government creates inefficiencies because: a) it should not have intervened in the first place; or b) when it could have solved a given problem or set of problems more efficiently (generating greater net benefits). In addition, a government fails if it does not intervene to effectively correct a *real* market failure, or when the government action creates additional distortions (and redistribution effects contrary to original objectives).[11]

Since the 1970s, the Public Choice school proponents criticized the interventionists' arguments based on the existence of market failures. Buchanan and Vanberg (1988), for instance, conclude that the *politicization* of a market failure is unlikely to generate the ideally corrective measures from a welfare point of view. One key reason is the existence of particular interest from the policy maker, far away from or contrary to the public interest. In addition, the final outcome from interventions is subject to the different actors (and their specific interest) involved in the political processes.

[11] The government could also fail if, instead of aiming at correcting the *real* source of a market failure, it attempts to compensate the effects of that failure.

Krueger (1990) suggests two types of government failures commonly present in developing countries in the 1970s and 1980s: Failures of commission, such as unproductive state-owned enterprises (in the case of Costa Rica, CODESA is an illustrative example); and failures of omission (for instance, when the deterioration of public infrastructure, such as roads and highways, increases the costs of productive activities).[12] Corruption is also a by-product of government failures. Government intervention can create corruption opportunities, rents for public employees, and misallocation of resources (Acemoglu and Verdier, 2000).

In spite of the sound arguments for precaution when prescribing selective interventions and promoting industrial policy, Rodrik (2007) argues that successful countries (South Korea, Taiwan, and recently China, for instance) have developed in good part due to the implementation of effective policies to overcome market obstacles and correct market imperfections. In this sense, microeconomic policies (PDPs) should not be seen as ineffective by definition, but their assessment should focus on the requirements for improving them and making them work effectively (Rodríguez-Clare, 2005).

The design and implementation of industrial policy should be based on a sound, formal, and well-documented analysis, rather than ideological beliefs or a *new* development planning euphoria. Thus, two key questions will be answered to assess the effectiveness of market failure-correcting policies from the design point of view: a) Does the government have a good reason to intervene in a market (is there evidence of a market failure to correct?); and b) is the government policy addressing the market failure optimally? In addition, from the implementation point of view, three particular questions are relevant: c) Is government policy reducing (to some degree) the economic inefficiency ("dead weight" loss) from the market failure? d) Is government policy creating any government failures? And e) are the institutional setting and responsible agencies functioning adequately to achieve the intended goals?

[12] Costa Rica's road infrastructure has deteriorated significantly over the past two decades. This situation has been described as one of the main competitiveness constraints for the country. Rivera (2007) argues that the deterioration of road infrastructure is the result of reduced public funding and underinvestment for road maintenance and modernization. The origins of these problems are diverse and include fiscal constraints, limited scope for productive infrastructure public investment promotion, lack of effective private concession mechanisms, regulatory and institutional obstacles, and limited managerial capacity from key public actors, among other factors.

3.2. The Political Economy of PDPs

Nolan and Pack (2003) argue that one notable vacuum in the industrial policy literature is the absence of sound discussions on political economy factors. Policies are the outcome of numerous forces operating in the political arena. According to Nash et al. (2006), the sum of those forces (interactions) constitutes the policy process, which is part of a wider political context that includes aspects such as the distribution of power, the range of organizations involved and their interests, and the formal and informal rules that govern the interactions among different players. For instance, interest groups invest in their stock of political capital to obtain particular rents from a specific policy (Winston, 2006).

Industrial policies can result from a collective action process that involves a multiplicity of actors with different interests and objectives, in many cases with unequal negotiation and political influencing resources. Those actors interact in the public, private or civil society arenas. In order to assess the arguments in favor of an active role of the government and the design and implementation of PDPs, a political economy approach should be incorporated. In this way, the case for the existence of market failures and required *public policy corrective actions* should be developed from a broader perspective, taking into account the influence of the various actors, their particular interests, and the final outcome of the policymaking process.

For this purpose, a political context mapping exercise is conducted, first, from the original perspective of each PDP; and then contrasting it with the current stage of the political mapping. This comparative analysis will serve as an input to assess possible ways to improve each PDP, taking into account the set of actors, forces, and the scope for reforms. Furthermore, the evaluation of the current stage of the political map will help to determine viable and realistic ways of promoting an effective reform for the PDP.

To conduct the aforementioned exercise, the following steps will be undertaken:

1. Assessment of the justification of the PDP (identification of the market failure or government failure)
2. Political interests mapping:

– Actors in policy area;
– Priority of policy area for each actor;
– Actors' reasons for exerting influence in policy area;

– Actors' resources for influencing policy outcomes in policy area;
– Degree of influence on final PDP design;

3. Assessment of the final design of the PDP, based on the political mapping
4. Analysis of the current stage of the political mapping to pursue effective policy reform

Following Baron (2003), a Distributive Politics Spreadsheet (DPS) is elaborated in order to identify the main forces involved in the process of designing and promoting the implementation of each PDP selected. In this way, the ability to generate political action by opposing and supporting actors for each PDP will be identified, as well as the expected benefits from supporting or opposing (in this case, the magnitude and per capita distribution of benefits is evaluated). The *incentive* for a particular PDP is the main objective for pursuing supporting or opposing actions. The collective action variables (group number, available resources, cost of organizing) are also described. The main actors' interests and their political influence determine the final policy design. The required information for the DPS is obtained through: a) interviews with key actors; and b) analysis of draft bills, discussions and hearing files in the Congress; and approved law, regulation, and policy documents.

4. Export Diversification and FDI Attraction: Export Processing Zones (EPZs)

4.1. Origin, Evolution, and Main Actors

The EPZ system is a set of incentives and benefits granted by the Costa Rican government to companies making new investments in the country (mainly MNCs). The most important incentive is the exemption granted on income tax up to 100 percent for eight or 12 years, and 50 percent for an additional four or six years. Other incentives include exemption from payment of all taxes and consular duties on imports, exemption from all municipal taxes and licenses for 10 years, and additional exemptions from payment of income taxes for those companies that after four years of operating under the EPZ regime make reinvestments in the country.

In December 1981, the Law of Export Processing Zones and Industrial Parks (Law 6695) created the Export Processing Zones (EPZ) regime as the first step in promoting the

export of non-traditional products to third markets. The incentives granted to EPZs firms are the following:

- Full exemption from income tax
- Full exemption from import tariffs (intermediate and capital goods, raw materials and other inputs)
- Full exemption from local taxes: sales, value added, municipal and royalties
- Free management of foreign exchange (export earnings)

The main supporters of Law 6695 were the Export Processing Zone Corporation (CZFE was a public-private organization created under CODESA), Congress, local government representatives, and civil society organizations from Puntarenas and Limón. In fact, the CZFE proposed new text during the consultation process that was approved by Congress. The CZFE obtained public enterprise status and was responsible for planning, managing, and operating the EPZ regime. Initially, the Ministry of Finance (MF) established the preferential tax conditions, while the Ministry of Industry (MEIC) decided which companies could operate in EPZs. In 1984 and 1985, reforms to Law 6695 eliminated the geographic restriction for EPZ creation (Limón and Puntarenas). At that time, it had not been possible to develop EPZs in those provinces, because of industrial infrastructure limitations. In addition, private developers of industrial parks lobbied hard to obtain incentives for other regions.

A new reform to Law 6695 was proposed at the end of 1987. Three years later, the new reform became Law 7210 (1990), which allowed, among other things, market rent prices for industrial buildings located in EPZs, and granted the established fiscal incentives to service-exporting companies and traders (wholesale).

The dynamism of EPZs and their increasing relevance in the Costa Rican economy contributed to the participation of more interested actors in the process of discussion and approval of Law 7210. The CZFE had a significant influence on the reform. The changes suggested by this organization were included in the final version of the Law. The Ministry of Trade (COMEX), created at the end of the 1980s, became another important supporter. In addition, local governments (municipalities) began to realize the potentially positive

impacts of foreign companies operating in EPZs for their local economies. Generally speaking, the government increased its interest in EPZs because of the positive outcomes obtained in the second half of the 1980s. The Ministry of Finance, on the other hand, expressed concern about the fiscal burden of the EPZ incentives.

Private participation in EPZs also increased. Industrial park developers gained greater political influence. The Chamber of Commerce was able to get commercial firms included in the EPZ incentives scheme. In addition, the Costa Rican Investment Promotion Agency (CINDE), a key private non-profit organization created in 1982, began working to attract FDI and supported EPZ development.[13] Interestingly, however, opposition emerged from the Chamber of Industries, particularly because of the perceived bias in favor of foreign companies regarding tax incentives.

The most recent reform of EPZs took place in September 1998, promoted by the Ministry of the Presidency and justified by the growth of the EPZs' investments and exports, and the new type of FDI that was entering the country. The operations of INTEL began in 1997. Afterwards, the government became interested in attracting more high-tech MNCs as well as back-office and call centers.

The reform was approved as Law 7830. One important change was the increase in the initial investment required for new applying companies. The main objective was to prevent national companies from shifting from the expiring export subsidies scheme to EPZs.[14] Another important change was the granting of EPZ investments to companies operating outside of the industrial parks (related to the experience with INTEL). This benefit was exclusive for companies with initial investments of over US$2 million and granted only in exceptional cases. This was consistent with industrial park owners' interests and was related to the expiration of export subsidies.

In the above-described reform discussion process, CINDE and COMEX had significant influence on the final outcome (Table 1). New actors such as AZOFRAS (the Association of EPZ Firms)[15] and the Costa Rican Trade Promotion Office (PROCOMER)

[13] It is worth mentioning that since its creation, CINDE has been the most important actor in attracting FDI to Costa Rica.
[14] The export subsidies (*Certificados de Abono Tributario*, CATs) were coming to end at that time.
[15] AZOFRAS was created at the beginning of the 1990s as a result of the growth of EPZ companies, which wanted to be organized as a group.

actively supported the reform.[16] The Ministry of Finance agreed with the reform because it strengthened customs control and accountability. Additionally, closer coordination with COMEX facilitated the incentive management and monitoring process. Small political parties, particularly ideologically left-leaning parties, opposed the reforms and EPZs in general.

[16] PROCOMER was the result of a merger of the EPZ Corporation (CZFE) and CENPRO (Center for Exports Promotion) in 1998.

Table 1. Distributive Politics Spreadsheet: Export Processing Zones Law Reform (Law 7830, 1998)

	Benefits from Supporting			Ability to Generate Political Action			Prediction
	Main Objectives (Incentives)	**Magnitude**	**Per Capita**	**Number**	**Resources**	**Cost of Organizing**	**Amount of Effective Political Action**
Supporting Interests							
COMEX	Competitive advantages to attract FDI	High	n.a.	Low	High	Low	High
PROCOMER	Competitive advantages to attract FDI	High	n.a.	Low	High	Low	High
CINDE	Competitive advantages to attract FDI	High	n.a.	Low	Medium	Low	High
AZOFRAS	Competitive advantages to attract FDI (Efficient administrative infrastructure and trade logistics)	High	Low	Low	Medium	Low	Medium
Customs Agency (Ministry of Finance)	Accountability of customs benefits for EPZs.	High	n.a.	Medium	High	Low	High
Opposing Interests							
Chamber of Industries*	Benefits and incentives similar to those of EPZs. Non-discrimination (competitive disadvantage) vs. foreign companies.	High	Low	Low	Medium	Low	Medium
Small Political Parties**	Sound ideological and political positioning	High	High	Low	Low	Low	Low

n.a. = not applicable

* The main opposition was against the differentiated treatment between EPZs and local companies, regarding taxes

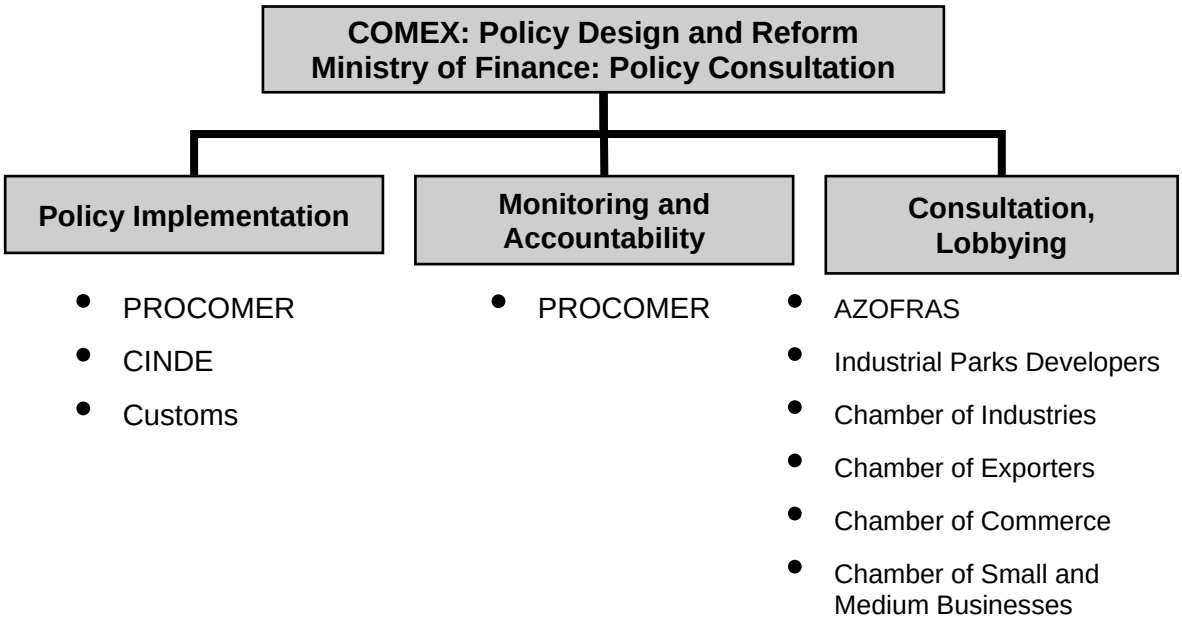
** Particularly left-wing parties

Source: Authors' compilation based on information obtained through interviews with key actors, Congressional archival research and literature review, adapted from an analytical framework proposed by Baron (2003).

4.2. Institutional Setting

Today, the Ministry of Foreign Trade (COMEX) is responsible for policy design, legislative reform, and coordination among public and private organizations related to EPZs. COMEX recently elaborated and submitted a draft law to reform EPZ legislation to Congress (*Asamblea Legislativa*). The proposal has been analyzed and discussed with various representatives from the public and private sectors, including business associations, labor organizations, and implementing and FDI promotion agencies. The current institutional setting of EPZ development is described in Figure 6.

Figure 6. Institutional Setting of EPZ Policy



The main arguments for the proposed reform are: a) the current fiscal cost of EPZs; b) the limited productive linkages between MNCs and local companies; and c) the compatibility of some EPZ incentives with World Trade Organization (WTO) rules. One key change would be the substitution of the income tax exemption linked to exports by a new fiscal incentive consistent with WTO rules (the so called *green-box* incentives). Additionally, the proposal includes new mechanisms to promote strategic FDI in sectors with high potential for linkage with the local economy and a new approach towards FDI promotion in less developed regions.

Besides creating incentives for FDI, the Ministry also elaborates and manages trade policy. In this way, COMEX integrates foreign investment growth, trade creation, and access to new markets (through free trade agreements) as key objectives of the country's global integration strategy. The Ministry of Finance is directly consulted for EPZ policy reforms because of the fiscal issues involved.

The Costa Rican Foreign Trade Corporation (PROCOMER) is the implementing agency of EPZ law. It is also responsible for the administration and coordination of incentive contracts with EPZ operating firms, as well as new applicants. The corporation conducts accountability and control processes. However, it is not directly involved in FDI promotion activities. PROCOMER is a public-private organization. Its president is the Minister of Foreign Trade. Its board has three representatives appointed by the government, plus five directors from private business chambers (industry, exporters, commerce, agriculture, and small and medium enterprises).

The Costa Rican Investment Promotion Agency is a private, non-profit organization responsible for attracting FDI to EPZs as well as non-EPZs. CINDE assists foreign investors in their site selection due diligence process (detailed information on the country and its advantages, and organization of customized investment agendas), and manages customized field trips and meetings with service providers, government agencies, industrial parks, and other key organizations. It also offers strategic advice on new operational expansion projects and product diversification.

Several private organizations have influence on EPZs and play a role in the policy consultation process. The EPZ Private Association (AZOFRAS) is one of the most important private groups, which represents EPZ companies and developers. It is responsible for coordinating and interacting with public and private organizations related to FDI attraction. Business chambers play also a role in EPZ development, mainly through their participation in PROCOMER's board of directors.

4.3. The Case for Policy Intervention

The unilateral liberalization process that Costa Rica began in the mid 1980s was not definitive, that is, it did not conclude with a full free trade regime (total elimination of tariffs and non-tariff barriers). Monge-González and González-Vega (1995) show that vested interests from pressure groups in Costa Rica were successful in limiting the scope of the reform. As a result, the anti-export bias caused by the ISIS was reduced but not eliminated. In addition, at that time, Costa Rica had a closed capital account and a managed exchange rate regime. The lack of efficient customs administrative infrastructure created burdensome procedures and red tape for business growth. In conclusion, without compensatory measures (fiscal incentives), it was very difficult to attract foreign firms oriented to exports to third markets (outside the CACM).

Export Processing Zones emerged in Costa Rica as a mechanism for promoting the export of non-traditional products through the attraction of FDI, creating new employment, improving the balance of payments, and helping create a diversified product base. In short, this PDP pursued greater stability for the economy in the face of shifting terms of trade for its previously dominant exports (coffee, bananas, sugar, and meat) and imports (manufactured goods).

The EPZ regime can be seen as a new government effort to offset *existing* government failures, but not a market failure. The most appropriate approach would be to eliminate those policies that created the original government failure situation. Thus, the PDP based on EPZs in Costa Rica *imitated* a free trade policy, compensating for adverse public policies.

The extent to which inward FDI contributes to technological and knowledge externalities depends on a country's trade policy (Saggi, 2002). In the case of Costa Rica, FDI attraction and export diversification have been complementary. Pack and Saggi (2006) argue that for a developing country, industrial policy is in many cases an outcome of the evolution of foreign trade and investment, which is consistent with the experience of EPZ in Costa Rica.

Klinger and Lederman (2005) argue that economic growth in developing countries is related to the diversification of exports. In addition, economic literature points out that market failures, in the process of "self-discovery" of a country's productive potential, are a

primary obstacle to investment and growth (Hausmann and Klinger, 2006). The last two arguments raise the question whether EPZs have increased export diversification and supported the process of self discovering.

The possible impact of EPZs on cluster development is worthy of analysis.[17] A cluster can be seen as a natural manifestation of the role of specialized knowledge, skills, infrastructure, and supporting industries in enhancing productivity. If the interaction from clustered companies improves productivity through technology or knowledge spillovers, positive externalities arise (if the activity of one company impacts the performance of other firms). This possible result could justify government intervention through the creation of incentives to attract FDI that entails positive externalities. However, the magnitude and type of incentives are key issues. Expected externalities should be contrasted with the amount of resources allocated for incentives, especially because of the significant fiscal burden related to EPZs.

In all of the above-described cases, the main objective would be productivity growth, through technology transfers and linkage effects (spillovers) from multinational companies (MNCs), strategic FDI attraction (*coordinated investments*), and cluster development from groups of companies in relevant sectors.

The analysis of the origin of this PDP indicates that there was no sound argument for intervention, since there was no evidence of the existence of a market failure that could justify government intervention (in the way that EPZs were created at the beginning of the 1980s). Moreover, in that case, the optimal policy to apply was the correction (elimination) of government failures originated from ISIS policies implemented during the 1960s and 1970s. In its origin, the creation of EPZs was not a second-best policy, either.

However, as EPZs evolved over time, new arguments related to the positive externalities arising from FDI could justify government intervention. According to Pack and Saggi (2006), some of the key issues to be considered by policymakers are: a) the identification of which MNCs generate spillovers and in which local firms or sectors; b) the estimation of the size and impacts of those spillovers; c) the potential effects of FDI on local industry coordination problems; d) the identification of which local companies can

[17] A cluster is defined as a geographic agglomeration of companies, suppliers, service providers, and associated institutions in a particular field. Those actors are linked by externalities and complementarities of various types.

benefit from those spillovers under what specific conditions and competitiveness requirements. In this way, a better understanding of market failures and whether and how FDI creates externalities on the economy will help the government to justify specific interventions and obtain support for policy reform.

4.4. Policy Outcomes and Conclusions

Since the beginning of the 1990s, EPZs have been very successful at attracting FDI. Starting in the mid-1980s Costa Rica saw increasing flows of FDI. Currently, FDI inflows represent 7.3 percent of GDP. Foreign EPZ firms' investments account for 19 percent of total FDI. In addition, exports from EPZs account for 53 percent of total Costa Rican exports.[18] In the second half of the 1990s, the country recorded the most important inflows of FDI, mainly related to high-tech and off-shore services.

At the macro level, FDI into EPZs has contributed to export growth, investment, employment, technology transfer, and foreign exchange earnings. Costa Rica has been successful in attracting high-tech FDI due to the cumulative results of past development policies (especially those related to human capital formation), geographical proximity to the U.S. market, zero profit taxes in the EPZs, and a specialized institution responsible for the attraction of FDI (CINDE).

At the micro level, Costa Rica envisions that FDI will generate positive spillovers through competition and the transfer of technological knowhow, marketing, and business practices. However, a combination of pervasive market failures, government inaction, and changes in MNCs strategies explains why it has been difficult to reap the benefits of technological externalities from FDI in Costa Rica (Paus and Cordero, 2007).

More sophisticated MNC branches may create backward linkages and thereby lead to the production of a larger variety of intermediate goods; in turn, this allows the economy to gain a comparative advantage in the production of more sophisticated final goods. In the end, the economy would end up with higher productivity and higher wages thanks to the backward linkages generated by MNCs.

The actions of the different institutions related to the attraction of FDI do not follow a coherent strategy because they are not closely linked. This situation could limit the efforts

[18] PROCOMER (2008).

for attracting FDI capable of developing more national linkages. Besides, the existence of EPZs might have reduced political pressures for additional reforms in key areas of the business climate, reducing the growth of potential FDI inflows.

As a general conclusion, the EPZ regime has compensated for the anti-export bias and important competitive disadvantages, without creating any additional government failure. It is clear that this PDP was not justified at its inception based on market failure arguments, but rather by government failures created by the distortions originated from the ISIS strategy of development followed by Costa Rica for three decades.

From a broader perspective, possible positive externalities associated with technological and knowledge spillovers from EPZ MNCs-branches are a new argument for policy interventions to correct possible market failures. To design and implement effective policies to exploit positive externalities associated with FDI, it is necessary to analyze which MNCs, sectors and productive activities have the highest potential for creating externalities. That is, what are the clusters with the strongest revealed comparative advantages and what channels and drivers for knowledge spillovers can be identified?

Costa Rica has built an institutional framework that has contributed to position the country as one of the most successful nations at attracting FDI inflows. However, there are some concerns regarding existing coordination failures that must be addressed to improve this framework. For instance, the absence of government financial support of CINDE's activities exemplifies the lack of a development strategy in which the government ensures that all the parts are complementing each other and moving forward in a coordinated way. Paus and Gallagher (2006) consider it critical that CINDE is institutionally embedded in the context of a larger development strategy, with sufficient resources to carry out its mission.

It is worth mentioning that CINDE's activities are focused on attracting FDI and making specific business climate improvements (e.g., bilingual education), and less on other key tasks such as company monitoring and post-establishment services for MNCs. Government agencies are not fully addressing these services either. In order for Costa Rica to move faster to improve the business climate, Monge-González and Hewitt (2008) propose the creation of a national council on innovation, competitiveness and growth policy (NCICG) that must be led by the president. The experience of successful countries

designing and implementing PDPs indicate that political support at the highest level is required in order to advance key policy reforms (CEPAL, 2008).

4.5. Recommendations for PDP Improvement

The main recommendation for policy improvements on EPZ development are the following:

1. PROCOMER and CINDE should strengthen company monitoring and post-establishment services.
2. Due to WTO regulations, an adjustment of EPZ incentives is necessary, but the priority should be the improvement of the business climate to promote FDI growth.
3. Competitiveness improvements to attract more sophisticated FDI require the highest level of political will and support, which demands a sound institutional setting.
4. In this regard, a national council on innovation, competitiveness and growth policy (NCICG) should be created. In addition, inter-agency coordination with medium management representatives from CINDE and government agencies (such as PROCOMER, COMEX, and MICIT) is necessary to identify and prioritize the most important actions to enhance competitiveness.
5. The development of productive linkages should be a central objective of EPZ promotion. The estimation and monitoring of MNCs' linkages with local firms should be improved.
6. EPZ development and cluster-strengthening policies should be integrated, taking into account the comparative advantages of the productive sectors.
7. The country should move to consolidate free trade, eliminating tariffs and non-tariff barriers.

5. Technology Transfer: Backward Linkages between MNCs and Local Firms

5.1. Origins and Main Actors

Since the creation of the EPZ regime at the beginning of the 1980s, the promotion of productive linkages has been the subject of public interest, due to the weak vertical integration of Costa Rican industry.[19] This situation was a result of the inward-looking strategy of development based on import substitution (ISIS) in the 1960s and 1970s, which promoted the manufacture of final goods rather than the production of raw materials and intermediate goods.

The first efforts to develop local suppliers were initiated by the private sector (multinational companies, MNCs). Baxter Health Care, Inc., one of the first important MNCs established in Costa Rica, created a program of technical assistance for the development of local suppliers in the mid-1990s. This project was part of the firm's business strategy in the country.

In 1999, the Supplier Development Project for High-Technology Multinational Companies was created. This program was supported by the IDB and managed by FUNCENAT.[20] This PDP had as a general objective increasing the domestic value-added from high-tech MNCs and particularly to improve the technological capacity of SMEs to help them become *indirect exporters* to MNCs (local suppliers) and, subsequently, to export to foreign markets.[21]

One of the components was *Costa Rica Provee* (CRP), a National Supplier Development Office, which was transferred to the Costa Rican Foreign Trade Corporation (PROCOMER) in 2004 to give continuity to the program as a consolidated and well funded organization and, in this way, to promote indirect exports to MNCs. *Costa Rica Provee* detects the needs of multinational companies, identifies business opportunities, and recommends partner suppliers (that comply with the production, technical, and quality specifications and characteristics required by MNCs).

[19] See File 7870 of the Export Processing Zones and Industrial Parks Law (Law 6695 from 1981).
[20] The High Technology National Center Foundation is part of the National Council of Rectors from public universities (CONARE). Besides FUNCENAT, the Directive Committee of the program included the Chamber of Industries, CINDE and PROCOMER.
[21] MNCs and SMEs were also part of the Directive Committee.

Costa Rica Provee turned into a more MNCs demand driven program, identifying the main requirements of inputs and raw materials from multinational companies, then matching MNCs demand with local suppliers.[22] On the other hand, it applied the concept of creating business opportunities through small projects between SMEs and MNCs.

In the last decade, three important reforms to the EPZ Law related to linkages have taken effect (December 1999, June 2006, and August 2008). These changes have made the aforementioned mechanisms more flexible. The last reform introduced important changes in outsourcing mechanisms. The share of maximum outsourcing increased from 25 percent to 50 percent of total MNCs value-added, and the simultaneous contracting with different suppliers was permitted. In addition, the restriction of a maximum one-year contracting term was eliminated. Machinery and equipment were allowed to move outside EPZs so that local suppliers could integrate them into the production process. Additionally, red tape and burdensome administrative procedures were eliminated. Registration steps were reduced from 10 to 2, while approval time went down from 15-20 to 3 days.

Table 2 depicts a distributive politics spreadsheet (DPS) with the different actors identified that participated in the design and implementation process of this PDP. It indicates moderate influence (effective political action) from most participants. Only PROCOMER and the Ministry of Foreign Trade (COMEX) had a high influence on the final design of the PDP, due to the amount of available resources, their capacity to exert political influence, and the expected benefits (related to the fulfillment of their institutional mandate). Only one opposing organization was identified. Interestingly, this organization was not against the objectives of the PDP, but its regulation. The Customs Agency criticized the flexibility of customs procedures to facilitate business between SMEs and EPZ companies, because of the potential loss of control and accountability.

One of the main conclusions of the DPS analysis is that the net balance of the different interests influencing the design of the PDP is very positive. Moreover, since the objectives of the linkage creation program discussed in the present section are consistent with the principle of improving the productivity of local supply companies, reforms to improve the present structure and implementation of this PDP would probably face little opposition.

[22] Almost all of the companies interviewed made this observation.

Table 2. Distributive Politics Spreadsheet: Program to Strengthen Backward Linkages between MNCs and Local Industry

	Benefits from Supporting			Ability to Generate Political Action			Prediction
	Main Objectives (Incentives)	**Magnitude**	**Per Capita**	**Number**	**Resources**	**Cost of Organizing**	**Amount of Effective Political Action**
Supporting Interests							
PROCOMER /COMEX	Market conditions for productive linkages	High	n.a.	Low	High	Low	High
Multinational Companies (i.e. Baxter)	Local supplier programs at MNCs	Medium	n.a	Low	High	Low	Medium
Local Companies (local suppliers)	New business opportunities	High	Low	High	Low	High	Low
Chamber of Industries	Affiliated companies with high competitive capabilities	Medium	Low	Low	Medium	Low	Medium
CINDE	Policy for productive linkages	High	n.a	Low	Medium	Low	Medium
AZOFRAS	Policy for productive linkages	High	Low	Low	Medium	Low	Medium
Opposing Interests					Medium		
Customs Agency	Limited accountability with tax exemptions	Medium	n.a	Low	Medium	Low	Medium

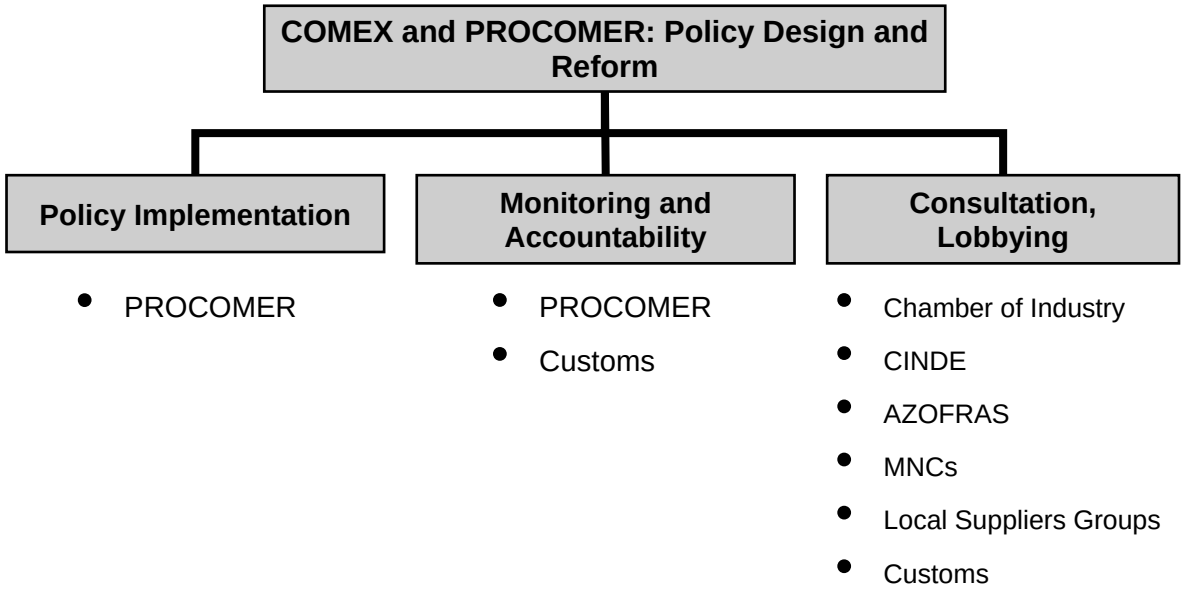
n.a. = not applicable

Source: Authors' compilation based on with key actors, Congressional archives research and literature review, adapted from an analytical framework proposed by Baron (2003).

5.2. Institutional Setting

Public and private organizations exert influence on CRP. Although this PDP is not a law by itself, it is governed by some regulations from the EPZ law. The institutional setting is described in Figure 7.

Figure 7. Institutional Setting of *CR Provee*



PROCOMER is responsible for the design and reform of CRP, which in turn depends on the Ministry of Trade's actions regarding EPZs regulations. The implementation, monitoring, and accountability of CRP fall within PROCOMER's purview as well. Additionally, an important group of private and public organizations interact with CRP, with different interests promoting productive linkages between MNCs and local suppliers. Customs administration has been working on mechanisms to facilitate controls on trade between local companies and EPZ foreign firms.

5.3. The Case for Policy Intervention

The literature indicates that the impact of FDI on host-country economic development depends on associated technological and knowledge spillovers. In the latter case, such spillovers depend on vertical linkages, worker mobility, and demonstration effects between MNCs and local firms

(Smeets, 2008). In the case of backward linkages, the existence of knowledge spillovers from FDI that generate positive externalities on local industry might justify government intervention.

However, success in attracting high-tech FDI does not automatically lead to the generation of knowledge spillovers related to backward linkages. These depend on the MNCs' interest in sourcing inputs in the host country and the domestic linkage capability of that country. Therefore, the case of backward linkage development must be approached both from the demand side (MNCs) and the supply side (local firms).

On the demand side, there are various points to consider. First, the sophistication of the MNC-branch productive process. More advanced processes could create more and higher-value *local* linkages.[23] Second, corporate policies. In many cases, CEOs of incipient MNC branches do not necessarily pursue linkages with local firms. In the initial stages, facilities construction and operations start-up are central priorities. With respect to procurement policy, local procurement managers frequently look for global suppliers rather than local firms for security reasons (productive process robustness). Besides, local procurement managers usually lack knowledge of local capabilities (high costs associated with the identification of local suppliers). This represents an information asymmetry that limits local linkages (market failure).

On the supply side, local firms are not necessarily capable of supplying goods and services to multinationals due to lack of firm-level capacity (entrepreneurship, technology, production scale, manageable risk, and financing). Even when local firms are competitive enough to become MNCs suppliers, host-country absorptive capacity depends on the learning infrastructure, institutions, and government policies (Paus and Gallagher, 2008).

When taking into account the potential for externalities created by FDI, support for linkages between foreign and local companies can generate positive outcomes. That is, government intervention can increase the *probability* of realizing those externalities, since these are not automatically achieved unless local suppliers are effectively linked to MNCs.

Technology and knowledge transfer entail different kinds of costs. Some of them could be covered by MNCs interested in increasing local procurement and technological cooperation. But the bulk of technology improvement investments might not be funded by foreign companies and could be out of reach of local companies.

[23] If the requisite skills are available locally.

Based on the previous points, a national plan to promote productive linkages between MNCs and local firms could be seen as a response to specific market failures (coordination failures among local companies) and externalities (from FDI). Thus, there are arguments for government intervention and implementation of a PDP.

However, in the case of CRP, not all market failures are addressed. Currently, the program approaches only the information asymmetries between local firms and MNCs. That is, it helps identify the actual demand for inputs and intermediate goods by MNCs and it searches for possible suppliers (business matchmaking). This is an important task, but its full potential for business development (productivity improvement) cannot be realized unless other key issues such as the limited access to technology, finance, and lack of entrepreneurship are addressed by a national linkage-creation policy. In short, CRP is a PDP that does not optimally address market failures.

5.4. Policy Outcomes and Conclusions

Costa Rica Provee emerged as a possible response to information and coordination market failures. The targeting in attracting specific areas reflects the belief that coordination failures impede an effective cluster formation. However, the recognition of market failures did not carry over automatically to the development of an effective national linkage capability. Before CRP, three different programs to promote the creation of linkages were implemented in Costa Rica, but they were not properly coordinated or were mostly "paper tigers." According to Rodrik (2004), policies to address such obstacles require clear rules of accountability, reciprocity, and enforcement.

Between 2001 and 2008, the number of backward linkages registered by CRP increased from 1 to near 190. This represented US$0.8 million in 2001 and US$5.8 million in 2008. Groote (2005) found that only 17.3 percent of the linkages created by CRP were incorporated into the high-tech MNCs final product. Thus, more *linkages* were related to non-specialized inputs.

Despite the positive results of CRP, the magnitude of its operations is very limited with respect to the size of the Costa Rican economy and MCN purchases. Total local purchases by MNCs in Costa Rica in 2007 amounted to US$591.1 million, while those promoted by CRP in the same year amounted to only US$4.4 million, or less than 1 percent.

The interviews of different key actors related to this PDP reveal that CRP is effective as a business matchmaker and enjoys the confidence of both SMEs and MNCs. Nevertheless, its contribution to the development of linkages is very limited. Costa Rican SMEs face productive bottlenecks that demand integrated support to upgrade technology, financing, quality, human resources, and management practices, among others. In fact, multinational companies argue that an important obstacle for SMEs is their business culture (IDB, 2005).

In short, more than identifying suppliers, the target of a sound linkage creation program should be the development of local suppliers. *Costa Rica Provee* falls short in its contribution to the correction of market failures. This point is validated by a recent study by Beltrán and Gutiérrez (2008), which identified several entrepreneurial obstacles in local firms. In addition, most local suppliers interviewed for this study indicate that the main obstacle to increasing their sales to MNCs is lack of financing, as well as limitations associated with certifications and human resource training. In all these cases, it is clear that there is a failure of coordination among SME-supporting agencies (CRP, PROPYME, public banks, and training institutions, among others).

The work of CRP is important but limited because it does not help SMEs advance through the value chain and become global suppliers. A linkage creation policy requires mechanisms that not only correct information failures, but also address coordination failures that limit the development of clusters, market failures related to access to technology and financing by SMEs, and government failures to create an enabling business environment for those companies.

There are various organizations in Costa Rica working with SME support programs. However, these programs are unconnected to each other and not demand oriented. A clear example is the lack of coordination between CRP and PROPYME[24] (a matching grant system to promote research and development (R&D) and other innovation activities) in order to support technological upgrading of local suppliers. Given this situation, these types of SME policies have little impact. This seems to be a government failure, since public organizations are not capable of achieving their original objectives.

Costa Rica has been successful in attracting high-tech FDI, but its success has been limited in terms of capturing micro (vertical spillovers) benefits from high-tech FDI. The success

[24] Based on a comparison between CRP and PROPYME beneficiaries, and interviews with local suppliers.

in attracting growing quantities of FDI (such as in the Costa Rican case) does not automatically lead to the creation of backward linkages and the advantages of knowledge spillovers.

5.5. Recommendations for PDP Improvement

The following recommendations emerge from the discussion above:

- An impact evaluation of CRP should be conducted in order to assess the extent to which the program's resources are adequate to undertake its mission and for future upscaling.
- *Costa Rica Provee* should establish closer coordination with agencies that manage SME support policies or programs (in areas related to finance, training, trade intelligence, and science and technology). Existing efforts are isolated and not demand-driven, especially in the education sector. Technical institutes and universities programs should be aligned with MNC and SME labor skill requirements.
- A national strategy of linkage creation (integrated with FDI attraction efforts) is necessary, to move from the current "matchmaker" approach to an integrated global support model.
- In order to increase access to financing by domestic suppliers, CRP and other SME-supporting agencies should coordinate efforts with public and private banks and government organizations such as CONICIT.
- Unilateral trade liberalization should be completed in order to eliminate any anti-export biases that prevent local companies from increasing their sales to MNCs. Many local suppliers import a significant part of their inputs. Removing import barriers would help them compete with lower costs.

6. R&D and Other Innovation Activities: PROPYME Program

6.1. Origins and Main Actors

The idea of supporting investment in R&D for SMEs originated almost two decades ago, with the Law on Promotion of Scientific and Technological Development (Law 7169) in 1990, which created the Ministry of Science and Technology of Costa Rica (MICIT). A decade later, in 2000, a new mechanism known as Financing of Technological Management for Industrial Change, or Grants Fund (FRC, *Fondo de Recursos Concursables*) was created. The objective was to promote R&D in SMEs (companies with less than 100 employees) and enhance management capacity and competitiveness. The FRC was developed by MICIT, CONICIT and the Office of the Presidency through a program known as *Programa Impulso*.

The FRC was modified in year 2002 by Law 8262 (SME Strengthening Law). A new fund called PROPYME (*Programa de Fortalecimiento para la Innovación y Desarrollo Tecnológico de las PYMES*) was established to promote entrepreneurship and competitiveness of Costa Rican SMEs, through innovation and technological development, and to contribute to economic development.[25]

The Economic Affairs Commission of the Congress advised that SMEs required an integrated PDP to enhance systemic competitiveness and correct several distortions resulting from obsolete infrastructure, burdensome red tape and business creation costs, wide interest-rate spreads, expensive public services, and an inefficient tax system. The Commission supported Law 8262 based on a study that pointed out critical obstacles faced by SMEs. In this context, and after reviewing the WTO Agreement on Subventions and Compensatory Measures (SCM), the Commission concluded that subsidies to correct evident market failures or those situations where high shadow costs exist (government failures) were allowed.

With the creation of PROPYME, an inter-agency agreement was established, aimed at strengthening coordination among key public organizations responsible for SME policies and innovation activities. The transformation of FRC into PROPYME was an important legal and institutional improvement. According to Law 8262, PROPYME resources come from Costa Rica's public budget and are allocated annually by the Incentives Commission at the Ministry of Science and Technology (MICIT), and managed by the National Council for Scientific and

[25] This program is based on the principle of *demand-driven* support. Therefore, it does not target specific sectors.

Technological Research (CONICIT).[26] Such a mechanism attempts to avoid resource allocation distortions through political influence, corruption, or at least moral hazard and discretionary management.

The system operates in two stages on a yearly basis (with two application processes). First, a firm or group of firms submits a project proposal to the Incentives Commission, which evaluates it according to the standard criteria. These are: the type of scientific activity or technological area the firm is involved in, the potential impact on firm and sector productivity and competitiveness, the scientific and technological capacity of the firm, the management capacity of the tender, and the probability that the firm's requirement can be effectively met by the project proposal. Qualifying projects compete for a venture with a certified Research Unit (RU).[27] The RUs present their offers for the projects that qualified in the first stage. The winning offers are selected according to criteria of quality, capacity, opportunity, and conditions offered by the RU as well as additional criteria approved by the Incentives Commission.

Once an RU is chosen to undertake a project, PROPYME may finance as much as 80 percent of its total cost with a non-reimbursable grant, while the SME has to finance the rest of the project. The main idea is to stimulate entrepreneurship and invest more in R&D (learning what the SME is good at producing), given that the private profit of such investment lies below social returns (due to externalities). It is worth mentioning that PROPYME can only support SMEs that have been in operation for more than six months, thus excluding the possibility that these funds are used to finance start-up companies.

The DPS for PROPYME indicates that this PDP was backed by an important group of supporters. Moreover, no opponent was identified in the analysis (Table 3). Supporting interests from MICIT, CONICIT, MEIC, and the Chamber of Industries were particularly strong. Indeed, MICIT and CONICIT directly influenced the final outcome of the Law, since their observations and suggestions were embraced by the Economic Affairs Commission of the Congress. The

[26] The members of this Commission are the Minister of Science and Technology, three representatives from CONARE, one representative from the Ministry of Agriculture, one representative from the Ministry of the Economy, Industry and Commerce (MEIC), two representatives from the Ministry of Finance, one representative from the Chamber of Industries (CICR), one representative from CONICIT, and one representative from the Private Sector Union of Chambers (UCCAEP).

[27] The Research Unit (RU) may belong to either a public or private university from Costa Rica or abroad, as well as a private research unit independent from any university (for instance, a non-governmental organization or the private RU of a firm).

PROPYME fund is managed by CONICIT, while MICIT selects the projects to be funded and directs the resource allocation.

The Ministry of Industry (MEIC) was particularly influential as well. Political negotiations with this Ministry helped to approve a revised draft law consistent with the arguments of MICIT and CONICIT. In addition, the Chamber of Industry (CICR) played an active role in the final design of the PDP. Allied with MEIC, they excluded agricultural companies from PROPYME's scope so that the funds were granted only to manufacturing and services firms. In 2008, with the creation of the Development Banking System (Law 8634), PROPYME obtained additional funding to support companies from all of the productive sectors.

Other key supporting actors of PROPYME were the research boards of public universities (University of Costa Rica and the Technological Institute of Costa Rica). Generally speaking, the objectives of this PDP have been widely supported by public and private organizations. Therefore, additional reforms and changes would be possible, and taking into account the relevance of PROPYME for productivity growth in SMEs, this policy could be adapted to new productive needs and a changing business environment.

Table 3. Distributive Politics Spreadsheet: R&D and Innovation Support for SMEs (Law 8262, 2002)

	Benefits from Supporting			Ability to Generate Political Action			Prediction
	Main Objectives (Incentives)	**Magnitude**	**Per Capita**	**Number**	**Resources**	**Cost of Organizing**	**Amount of Effective Political Action**
Supporting Interests							
MICIT	Availability of instruments to finance R&D	High	n.a.	Low	High	Low	High
CONICIT	Availability of instruments to finance R&D	High	n.a	Low	Medium	Low	High
SMEs	Access to financial mechanisms to invest in R&D	High	Low	High	Low	High	Low
Private Research Centers	New opportunities for research investments and business growth	High	High	Low	Low	Low	Low
Research Boards at Public Universities	Marketing of science and technology services for the private sector	High	High	Low	Medium	Low	Medium
Chamber of Industries	Availability of instruments to finance R&D	High	High	Low	High	Low	Medium
MEIC	Availability of instruments to finance R&D	High	n.a.	Low	High	Low	High

n.a. = not applicable

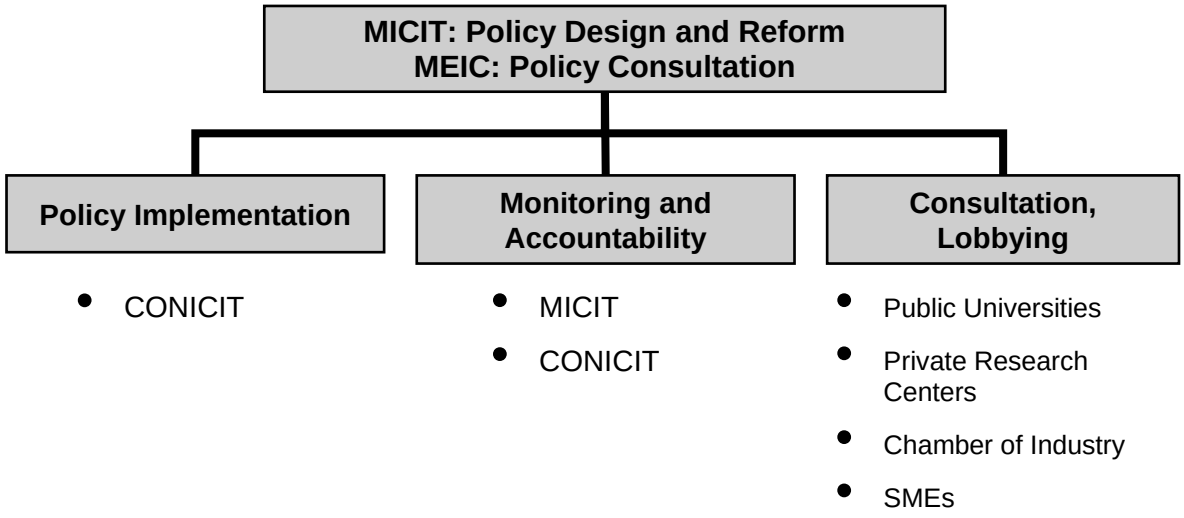
Source: Authors' compilation based on interviews with key actors, Congressional archives research and literature review, adapted from an analytical framework proposed by Baron (2003).

6.2. Institutional Setting

The Ministry of Science and Technology is responsible for PROPYME policy design and implementation. It is also directly related to monitoring and accountability activities. At the same time, the Ministry of the Economy serves as a consultative body. The MEIC elaborated the general framework of this PDP. CONICIT is also responsible for monitoring and accountability issues.

Interest groups from the private sector and research organizations (both from public universities and private centers) are frequently contacting PROPYME administrators in order to propose changes and improvements to the regulatory mechanisms. The current institutional setting is described in Figure 8.

Figure 8. Institutional Setting of PROPYME



6.3. The Case for Policy Intervention

When a firm invests in R&D and other innovation drivers, it generates knowledge that can be used by other firms. If a solid structure to enforce intellectual property rights is in place, money invested in R&D activities becomes the *price of knowledge*, given that those property rights allow the owner to exclude others from exploiting the new knowledge. However, even when the legal and institutional framework for intellectual property protection is in place, the innovator sometimes cannot fully own the benefits from its investment because of the presence of positive externalities due to technological or knowledge spillovers resulting from the innovation.

The basic idea of technological spillovers is that the effects of innovation by one firm tend to spill over into the rest of the economy, mainly to other firms that interact with the innovating one (for instance, strategic partners, clients, suppliers, and even competitors). This situation occurs when an innovative firm receives private marginal revenue less than the social marginal revenue—when the knowledge the firm is generating is spilling over to other firms, thus increasing the benefits to society as a whole beyond a simple increase in the innovating firm's profits. The only way for the innovating firm to obtain some part of the social marginal revenue would be through compensation for the innovation spilling over into other firms.

While the effects of externalities can be seen as differences between private and social revenues or as differences between private and social marginal costs, the outcome is the same: the innovating firm is investing less in R&D than the socially optimum amount, which, combined with the convenience for other firms of acquiring new knowledge for free, collapses into a generalized underinvestment in R&D (Martin and Scott, 1998). In order to correct this market failure, government intervention is justified. The question that arises, therefore is, what type of intervention (PDP) should be followed?

The classic theoretical argument is that the government should subsidize the private provision of knowledge either through tax credits on firms' investment in R&D or grants to incentivize the private sector to undertake more innovation activities. It is worth mentioning here that subsidies of this kind are permitted by the World Trade Organization's rules, since they are part of the so-called "green box policies." According to Hausmann and Rodrik (2002), any government subsidy to increase the payoff for innovation should be reduced through time to impose discipline in the use of scarce resources.

In the case of either export-related activities or production for the domestic market, tax credits for R&D investments are an interesting policy tool that may unfortunately generate resistance among developing country governments because of the costs involved. Martin and Scott (1998) point out that the effectiveness of tax credits may be limited because they do not benefit start-ups, but rather apply only to R&D investments made by already established companies. This is a serious limitation since, as stated by Monge-González and Hewitt (2008) for the case of Costa Rica, new companies (start-ups) are those that most frequently introduce new products to the market (innovations).

Theoretical results from Arrow (1962) and Scherer (1967) suggest that more competition in a market should lead to greater levels of innovation and R&D investment.[28] Thus, policies that promote competition could incentivize private investment in R&D, since these help to overcome anti-competitive practices by incumbent firms and promote cooperative R&D practices. Trade policies are of particular interest for developing countries as well. Given that increased foreign competition and a larger variety of goods are made available to consumers by international trade, this creates additional incentives for firms to innovate more.

According to Rodríguez-Clare (2004), R&D promotion policies by themselves will not be as effective as they could be if they were accompanied by a policy of promoting the creation of *clusters* of innovative business in areas in which a country has clear *comparative advantages*. In fact, the author states that the effectiveness of any general policy for the promotion of innovation is weakened by geographical and economic distance between businesses, as well as the way in which some innovations occur in such a way as to minimize knowledge spillovers. Isolated policies (such as subsidizing R&D or research in universities, for example) may therefore produce relatively weak and diffuse results.

From the previous discussion, it is clear that the government has good arguments to promote R&D and innovation activities in SMEs because of market failures that impede an optimal allocation of resources. The correction of those failures is a necessary condition to improve the technological advancement of SMEs. In its current form, however, PROPYME can achieve only limited results. That is, this PDP is not addressing market failures optimally.

6.4. Policy Outcomes and Conclusions

Innovation investments or technology adoption processes can be costly and in some cases even prohibitive for SMEs. Numerous market entry barriers and internal business obstacles (limited managerial and technical skills, unavailability of advanced equipment, inefficient production process, and low quality standards) can impede the firm's technological advancement. Without a coordinated government intervention, investment from SMEs in innovation or technology adoption might not occur at all.

[28] This point has been reinforced by Baumol (2002), who claims that firms use innovation as their main approach to competing in markets.

Between 2000 and 2008, PROPYME supported innovation activities carried out by 115 SMEs.[29] The 115 projects represent a total investment of US$2.5 million, averaging US$25,000 per project. It is worth mentioning that some firms do not make effective use of all of the resources allocated to them. For this reason, total disbursements account for 84 percent of total approved funds. The highest numbers of projects are related to technological development, while no patent-related projects have been financed. Similar numbers of projects have been financed in other categories, particularly human capital development. The absence of funded projects leading to patent registration constitutes a limitation for innovation and productivity growth.

Currently, PROPYME is not contributing to correct market failures and promote R&D and other innovation activities for SMEs. Notwithstanding the availability of funds, the burdensome and complicated administrative process, limited knowledge of the program by potential beneficiaries, limited coordination with other SME supporting agencies, plus design problems (such as the exclusion of start-ups), create significant obstacles to achieving the program's goals.

The majority of managers from the Costa Rican companies surveyed were unaware of the program's existence. Therefore, these firms were unaware of PROPYME's financing instruments. Other companies indicated that they know about the program only indirectly because of information obtained from the Chamber of Industries. However, after learning what PROPYME does, the companies expressed their interest in applying and stressed the importance of these kinds of policies to overcome technological and human capital weaknesses.[30]

The results from eight interviews (four companies and four RUs that have applied for PROPYME's funds) indicate that the application process is very complex. There is an extensive procedure cycle for selection of and disbursement to the beneficiaries (around six months), which reduces the attractiveness of the financing. As a result, medium and long-term projects are more attractive.

Limited results have been achieved, in good part due to the poor coordination and lack of feedback channels between public and private organizations involved with PROPYME. In addition, the program is not oriented towards creating synergies to strengthen clusters or other

[29] PROPYME started in 2003, but the former FC program (original idea) started in 2000.
[30] Six out of nine companies surveyed that do business with MNCs were unaware of the existence of PROPYME. Two firms indicated they are planning to apply for a grant to finance quality certifications processes. From the 79 projects funded by PROPYME between 2003 and 2008, only 11 were undertaken by local MNC suppliers.

vertical PDPs. The program only facilitates the financing and matching of RU and SMEs projects. The work is not integrated with other firms with a high potential to generate positive externalities through knowledge and technology transfers, such as MNCs. There are no inter-organizational coordinated efforts with other programs such as CRP. The failures of implementation, resulting from the complex application process and the burdensome and slow procedures, added to the limited marketing of PROPYME, are the result of a failure of omission. The main result is underutilization of the funds and underinvestment in R&D and other innovation projects. Thus, the policy is not contributing to correct market failures.

One of the main criticisms of PROPYME made by the companies surveyed is that 100 percent of the resources required for investment are not granted. This situation can generate difficulties such as delays in the research process or failure to achieve the initial objectives of the project. Another problem arises from the double application mechanisms, since most SMEs and RUs do not know each other.

Despite its clear limitations, the companies surveyed indicated that PROPYME had helped them to become more competitive. One of the main benefits pointed out was the improvement in the productivity of the firms, especially from human resource training and increasing sales of its products. The majority of the companies that have obtained support from the program were engaged in innovation activities before, and have continued investing on technological improvements after PROPYME. Therefore, there is a potential for improvement to achieve better results from this PDP.

6.5. Recommendations for PDP Improvement

From a global perspective, the three PDPs analyzed so far should be integrated from a *policy umbrella* perspective, with the objective of promoting cluster development through FDI growth from MNCs located in EPZs, productive linkages between foreign firms and local SMEs, and technological innovations to strengthen local companies' competitiveness. It is necessary to create coordination channels between industrial policies (PDPs) to achieve better outcomes. In this case, EPZ development, backward linkages promotion, and R&D investments should be key components of a national strategy to raise productivity.

From the analysis, the following recommendations are offered:

- A comprehensive impact evaluation should be conducted of the agency and the beneficiaries' performance in order to make appropriate adjustments and improve PROPYME's outcomes.
- To increase the level of transparency of final project decisions, both applying companies and research units that are not selected should be informed of the reasons why their application was rejected. In this way, they can improve future proposals.
- A closer relation between SMEs and research units should be promoted from the beginning of the application process.
- A single application process should be instituted and applications should be accepted at least once a month, in order to increase the number of applications and accelerate project selection.
- Strong marketing and outreach efforts from MICIT and CONICIT are needed to increase general knowledge about the program among potential applicant companies.
- Integrating PROPYME with other PDPs such as EPZ development and CRP should be a priority for policy makers.
- A grants scale should be developed in order to incentivize additional funding from other sources (with a matching funds percentage for higher grants).
- The legal ownership of new processes, goods, or other project outcomes subject for patenting should be clearly stated in PROPYME's regulations. Intellectual property rights from project participants should be clear.

In order to address market failures optimally, PROPYME should be complemented with other policies, including: a) inclusion of start-ups as potential beneficiaries; b) coordinated efforts to ensure competitive practices within sectors of beneficiary firms and foreign competitors; c) elimination of any tariff and non-tariff barriers on imported inputs and capital goods required; d) development of capital markets; and e) focused incentives on companies belonging to clusters with revealed comparative advantages.

7. New Productive Activities: Sustainable Tourism

7.1. Origins and Main Actors

Since the beginning of the 1990s, Costa Rica has been able to create an international image as a biodiversity conservation destination through the development of an important nature-based tourism industry. Tourism promotion was another important component of the government's new export-led strategy of development, implemented after the economic crisis at the beginning of the 1980s. At that time, the need to promote new productive activities to help increase foreign exchange earnings made policymakers focus on the promotion of international tourism services.

On July 5, 1985, the Costa Rican Congress approved the Law on Tourism Development Incentives (Law 6990), prompted by the need to generate foreign exchange and contribute to the country's economic recovery. In the law's two first articles, tourism is described as an activity in the public interest, with the objective of generating an "accelerated and rational" development of this industry.

Six tourism activities were beneficiaries of Law 6990 incentives: hotel services, air transportation, car rentals, restaurants (with a minimum investment of US$50,000), aquatic transportation, and receptive tourism (for travel agencies dedicated exclusively to this activity). The majority of incentives were of a fiscal nature. To grant them, the Law 6990 established the following conditions:

- They must contribute to the balance of payments.
- They must create direct and indirect employment.
- They must use national raw materials and inputs.
- They must benefit other productive sectors.
- They must have positive effects on regional development.
- They must modernize and diversify the supply of tourism products in the country
- They must foster the growth of internal and external demand for tourism.

Those incentives were in effect until 1992, when a significant reform took place. At the beginning of that year, the Congress formed a special commission to assess tax exemptions. On April 3, the Law of Tax Exemptions Regulation (Law 7293) was approved, which eliminated or

adjusted many of the tourism incentives.[31] Some of the most important changes were the elimination of income tax exemptions for new tourism businesses (with new tourism contracts approved by the Costa Rican Tourism Institute, ICT), the exclusion of restaurants as potential beneficiaries, and the change in Article 11 (Law 6990) that granted tax holidays to investors that invested up to 25 percent of their capital in tourism activities.

In general, the tourism incentives bill did not face opposition. The main supporting actors for Law 6990 were the Ministry of Finance, the Costa Rican Tourism Institute, and the Association of Car Rental Companies. The ICT had a determining influence on the creation of the law, since it strongly (and effectively) lobbied for the consideration of tourism as a "public interest" industry and the granting of incentives for restaurants. The Ministry of Finance prepared the initial bill and submitted it to the Congress. During the hearings and discussions, it managed to establish a maximum period of 12 years for the incentives.[32] The car rental companies supported the law, with a particular interest in the tax exemptions for national tourism rentals. Finally, the Central Bank was in favor of allowing hotels to manage their own foreign exchange (Table 4).

[31] This law eliminated or changed fiscal exemptions included in the whole regulatory framework of the country, with exemptions clearly stated.

[32] Consistent with the incentives period granted to exporters of non-traditional exports to third markets (outside Central America) at that moment.

Table 4. Distributive Politics Spreadsheet: Law of Tourism Development Incentives (Law 6990, 1985)

	Benefits from Supporting			Ability to Generate Political Action			Prediction
	Main Objectives (Incentives)	**Magnitude**	**Per Capita**	**Number**	**Resources**	**Cost of Organizing**	**Amount of Effective Political Action**
Supporting Interests							
Costa Rican Tourism Institute	To declare the tourism industry of public interest and include restaurants (gastronomical activity) in the beneficiary group of tourism incentives.	High	High	Low	High	Low	High
Ministry of Finance	To have (next to ICT) the discretion in granting the incentives. To establish a maximum period of tourism incentives.	n.a.	n.a.	Low	High	Low	High
Central Bank of Costa Rica	To allow the hotels manage their own foreign exchange.	n.a.	n.a.	Low	High	Low	Medium
Costa Rican Association of Car Rental Companies.	To extend the benefits of car renting to national tourists.	High	High	Low	High	Low	Medium

n.a. = not applicable

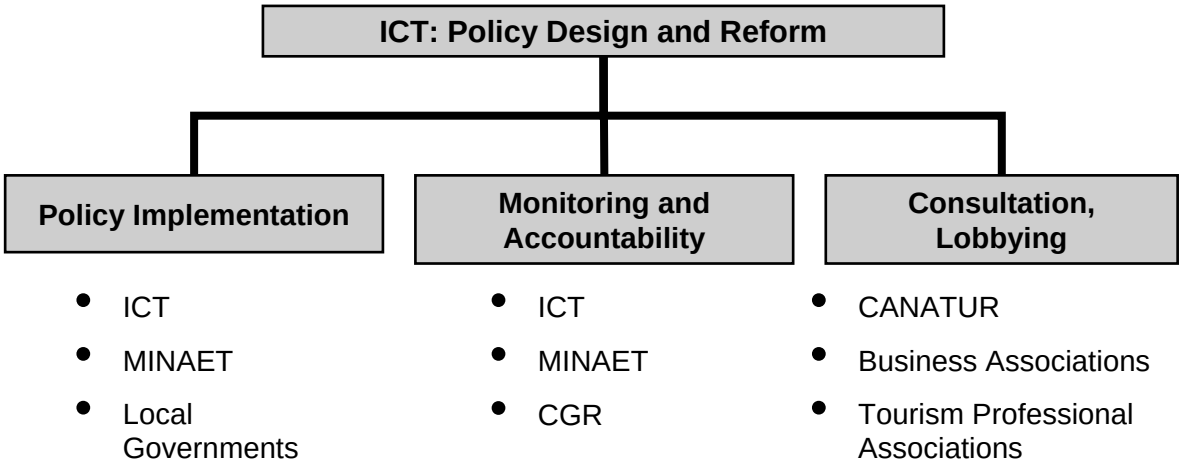
Source: Authors' compilation based on interviews with key actors, Congressional archives research and literature review, adapted from an analytical framework proposed by Baron (2003).

7.2. Institutional Setting

The Costa Rican Tourism Institute is responsible for the design of tourism promotion policy. Currently, its central goal is the promotion of sustainable tourism development, by maintaining a balance between economic and social outcomes, environmental protection, culture, and country assets. The current institutional setting is described in Figure 9. The ICT is also responsible for the implementation and monitoring of tourism policy.

Other public sector organizations share responsibilities in this area. The Ministry of the Environment (MINAET), for instance, enforces national environmental laws, particularly in national protected areas and other natural assets. It also monitors the environmental performance of tourism companies. Local governments are responsible for policy implementation as it relates to territorial planning, infrastructure development, and public services at tourism sites. The Comptroller General is responsible for monitoring the policy mechanisms, especially tourism incentives. Private sector organizations, such as the National Chamber of Tourism and other business and professional associations, play a consulting and lobbying role in policy design and implementation.

Figure 9. Institutional Setting of Sustainable Tourism Promotion



7.3. The Case for Policy Intervention

Tourism in Costa Rica has been a target of important incentives and direct government support. In the 1980s, the main mechanism of government support was fiscal incentives. Tourism was one of the new productive sectors promoted after the economic crisis. In those years, tourism was regarded as an infant industry with high potential. The country had plenty of competitive advantages (weather, natural and cultural attractions) but required incentives to correct coordination failures among companies and the industry as a whole. With fiscal incentives, the government tried to correct those failures and reach economies of scope, integrating different parts of the value chain.

During the 1990s, most of the fiscal incentives were eliminated. The government began to promote a tourism industry based on the country's distinctive characteristics in the world market, namely its cultural and natural assets, climate diversity, and peaceful environment. The goal was to create value through sustainable tourism based on the protection of natural resources.

The term "sustainable tourism" is used to describe policies, practices, and programs that take into account not only the expectations of tourists about responsible natural resource management (demand), but also the needs and quality of life of the environment and communities that support tourism projects (supply). For tourism, sustainability is not only a response to demand factors of the industry, but an indispensable condition for successful competition and, even more important, for long-term business survival (Pratt and Rivera, 2004). According to Johnsen et al. (2008), sustainable tourism is, at its core, a management process. The important issue is to plan and shape tourism in such a way that the focus is not only on the economic implications of tourism but also on how it affects the inhabitants and the man-made and natural environment.

Environmental quality is a pure public good, non-rival and non-excludable. In this sense, production and consumption actions that improve the use of natural resources create positive externalities and collective benefits. On the other hand, negative externalities such as air pollution, hazardous wastes leaking into water reservoirs, or deforestation (soil erosion) create higher social costs than private costs. The presence of externalities related to environmental management creates a case for policy intervention. Environmental policy attempts to internalize externalities and thus correct market failures resulting from natural

resource degradation. In addition, environmental policy actions can target positive externalities by compensating with incentives (i.e., subsidies) in order to correct the privately determined market prices to reflect their social value (Cohen, 2001).

In the case of tourism, policy intervention can be justified as far as the PDPs implemented promote the sustainable use of natural resources and therefore create positive externalities for society. Alternative less productive uses of natural resources (i.e., unsustainable agriculture) or possible depletion activities (i.e., housing construction) could be compensated for their opportunity cost with policy instruments that increase profitability for businesses and generate positive environmental externalities. Free-riding should be avoided with an effective performance monitoring and impact evaluation mechanism.

Economies of scope in the tourism sector could also be achieved through PDPs, by means of clustering. High environmental quality can be used as a key input by those industries that pursue competitive advantages based on sound environmental management. In the case of tourism, the conservation of the natural capital of a country has a chainable effect and complementary influence on many firms. One advantage of clustering is the creation of backward and forward linkages. As stated by Cohen (2001), industrial policy can help create or strengthen those linkages to generate positive externalities.

When promoting industries like tourism, a coherent policy is necessary to create a sound international reputation, a *country brand* that differentiates and positions the country competitively. According to FutureBrand (2008), "countries are becoming more aware of the importance of defining how they want to be perceived and the need to improve and leverage their assets. While tourism is often the most visible manifestation of a country brand, it is clear that the image, reputation, and brand values of a country impact its products, population, investment opportunities, and even its foreign aid and funding. Looking at a nation holistically, determining its key requirements and essential objectives, and aligning initiatives to both the public and the private sector are the best ways to create a successful country brand" (p. 8).

7.4. Policy Outcomes and Conclusions

Tourism is one of the leading industries in Costa Rica. According to the Costa Rican Tourism Institute's estimates, in 2008, more than 2 million tourists visited the country, generating US$2.2 billion. Taking into account the industry linkages with other sectors of the economy, tourism accounts for 13.5 percent of GDP, 13.1 percent of total employment (direct and indirect) and 17.1 percent of total exports of goods and services (WTTC, 2008). According to the Central Bank of Costa Rica, FDI in the tourism sector reached US$325 million in 2007 (BCCR, 2008).

More than two decades ago, the country created a large number of incentives to promote tourism development, mainly tax exemptions and other fiscal incentives. Since the beginning of the 1990s, some incentives were eliminated or adjusted because of new fiscal requirements. Since then, policy efforts have focused on the consolidation of a sustainable tourism sector, aligned with the most dynamic international market segments, and based on the country's natural capital.

There are three main drivers of success in Costa Rica's tourism sector: a) value creation from the country's image as a peaceful and democratic place, where natural conservation is institutionalized; b) a tourism industry with high local value-added, with an important number of small and medium-size businesses, development in rural areas, and the use of local labor; and c) the country's brand name in international markets ("No Artificial Ingredients") being a differentiated product (Pratt and Rivera, 2004; Santamaría and Pratt, 2007).

Positive externalities of environmental protection and sustainable tourism promotion have been addressed through different incentives, plans, and standards. For instance, in order to guarantee sound sustainable tourism businesses and create profits from the country's green image (and limit *free-riding* from non-authentic businesses), a group of government, academic, and private sector institutions led by the Costa Rican Tourism Institute worked together in the late 1990s to develop the Certification for Sustainable Tourism (CST). The CST is a voluntary program that categorizes each tourism company

according to the level of impact it has on sustainability, taking into account economic, social, and environmental variables.[33]

Notwithstanding the positive policy outcomes from these efforts, in recent years, there has been a dual approach to tourism development which is inconsistent with the green country brand and sustainable development objectives. Generally speaking, Costa Rica has been a leading nation regarding the *green* agenda environmental actions (biodiversity conservation, protected areas creation, and environmental services promotion).

However, in spite of recent advances, significant problems related to the so-called *brown* agenda (inadequate water, sanitation, drainage and solid waste disposal, recycling services, poor urban and industrial waste management, and air pollution)[34] are present and require effective environmental policy actions (ICT, 2007; *Programa Estado de la Nación*, 2008). All these contradictions regarding environmental management in Costa Rica affect tourists' expectations about a nature-rich destination, and therefore erode the country's competitive advantages.

From a global perspective, environmental policy in Costa Rica is not addressing market failures (externalities) in a consistent manner. In the case of tourism PDPs, more coherence in terms of targets (location investments, development of specific areas for destination, national and local infrastructure investments) management (institutional coordination, impact analysis studies) and incentives (effectiveness, cost-benefit, and adequacy) is required to maintain sound competitive advantages.

Ironically, in Costa Rica, investments in protected areas and national parks are low. Both public and private resources allocated to the protection of this key natural asset are

[33] The CST draws on four assessment areas: a) *Physical-biological environment.* It evaluates interaction between the business and the surrounding natural environment, including the treatment of wastewater, protection of flora and fauna, management of solid waste, emission of gases, business practices relating to the natural setting, among other factors; b) *Facilities and infrastructure.* Aspects related to the internal systems and practices of a business are assessed in terms of waste management, use of energy- and water-saving technologies, the types of food and drink served, and training for employees in sustainable tourism concepts; c) *Guest relations.* Businesses are evaluated in terms of what actions management takes to invite guests to participate in sustainability policies relating to the natural surroundings and consciousness of the global public value of nature; d) *Socio-economic environment*. Identification and interaction of the establishment with neighboring communities are rated. For example, there is an assessment of the degree to which hotels respond to the growth and development of the region by generating employment or providing benefits that favor regional culture and well-being.

[34] These issues are reflected in the "brown agenda" since they are primarily related to pollution and urban growth. However, rapid urbanization also affects natural resource and use management in and around cities, causing pressures such as extensive depletion of water and forest resources and conversion of environmentally fragile lands, which are part of the *green* agenda (World Bank, 1997).

scarce, when compared to the income generated by eco-tourism and the growth potential of the market (Pratt and Rivera, 2004). The National System of Conservation Areas (SINAC, for its Spanish acronym) consists of 166 conservation spots that cover 26 percent of national territory, including wildlife refuges, buffer zones, and protected areas and national parks. It also includes 2,654 private reservations, which constitute a significant burden on the government. A central problem is the limited budget for effective management of public and private lands that make up the SINAC.

In addition, a sound territorial planning model is absent. Significant land use changes and weak environmental management have caused serious damage to coastal areas, buffer zones close to protected areas, and other important natural assets (Román, 2007; *Programa Estado de la Nación*, 2008). In this regard, tourism investments in massive resorts and hotels, integrated with residential projects, have impacted natural resources in several key spots along the Pacific Coast (Salas, 2008). The pressure on land and water resources, the generation of solid waste, and the destruction of coral reefs, wetlands, and other fragile ecosystems, for instance, are unwanted outcomes of tourism development that create serious threats to the industry's development and the country's sustainable development.

There is no sound long term planning program, even for basic issues like public property concessions and infrastructure construction. For instance, in the case of the Golfo de Papagayo Tourism Project (GPTP), one of the biggest massive tourism business concepts begun in 1991, the Comptroller General has indicated that there are no monitoring and evaluation mechanisms, and in many cases investments have been delayed for more than a decade (CGR, 2008a).[35]

Besides the leading role of the Costa Rican Tourism Institute, several public organizations are involved and responsible for various aspects of general tourism policies and incentives, and other key cross-sectoral issues such as territorial planning, water resources protection and management, construction permits management, and biodiversity conservation. For example, Román (2007) indicates that more than 10 public organizations (including ministries, local governments, and public administrative bodies) are involved in

[35] Between 1997 and 2007, more than US$7 million of public funds were invested in infrastructure for the GPTP. However, most concessions have not been effectively used by the private developers.

land use management for tourism projects. According to CGR (2006), only 18 percent of municipalities have adequate and updated territorial management plans. Most local governments in key tourism natural spots do not have the required capacity to conduct effective monitoring and planning, while limited coordination with ICT and other public organizations worsens the situation.

7.5. Recommendations for PDP Improvement

Tourism development PDPs should focus on business incentives for sustainable management. Incentives should be consistent with both environmental protection and value-added creation. Market trends and competitive advantages need to be mutually reinforced. Currently, the public and private sectors face the challenge of promoting and managing tourism potential in order to offer opportunities for both local and foreign investment, create employment, and increase revenues while ensuring environmental and social sustainability.

The following recommendations are intended to contribute to the improvement of tourism PDPs:

- Public and private investment should be increased in those assets most critical for tourism attraction to bring them up to world-class levels. Natural attractions (especially national parks and coastal zones) and cultural attractions (particularly historic areas) are the country's most valuable assets for tourism development. The tourism *cluster* must become actively engaged in environmental management and conservation. Active collaboration with the public sector and community organizations will strengthen competitive position for the entire cluster. Direct investment in parks, protected areas, coastal areas, and wildlife protection would provide significant returns.
- Tourism promotion organizations and resource management agencies should link tourism products (parks, protected areas, and cultural sites) more closely with marketing positions. This will ensure a consistent and unique selling position in world tourism markets based on high-value experiences at natural and cultural sites in a compact geographic area.

- Increasing the number of firms (hotels, tour operators, car rental companies, etc.) with Certificates of Sustainable Tourism (CST) is a key medium-term objective to accomplish. The CST should be the general industry and government standard for tourism certification. A program to support companies to make necessary productive or management adjustments to adopt the CST could be coordinated with other productive strengthening programs. An evaluation of the possibility of making the CST a compulsory requirement for tourism companies should be conducted.
- Cruise ship and other massive tourism segments must be clearly dimensioned and carefully planned, in order to take advantage of their significant growth and potential, but with a clear understanding and effective management of their environmental risks. The competitive position of the country in the environmental and cultural segments could be threatened by the negative impacts of massive traditional enclave-like tourism or cruise tourism.
- All public, private, and civil society stakeholders should decide on the kind of tourism cluster they want to consolidate in the next decade, considering the possible impacts on the natural resource base and the development opportunities for the country. The actual level of institutional coordination among key public actors is not optimal. In addition, enforcement of environmental regulations is still limited. More efforts are required to create a sound institutional framework.
- There is a need to conduct periodic evaluations and impact analysis of tourism incentives, from an economic, social, and environmental perspective.

8. Food Security and Agricultural Protection: The Case of Rice

8.1. Origins and Main Actors

In May 2002, the Rice Corporation (CONARROZ) was created (as a non-governmental public enterprise managed by a board of producers, millers, and government representatives), with the objective of managing a hedge fund to support the local producers' prices margins and promote competitiveness-enhancing projects. The premise was the need for a mechanism to protect national producers from adverse (low) international prices and improve their local production conditions (low competitiveness).

In addition, the argument of national food security, and more precisely, food self-sufficiency, was raised. Rice producers and millers argued that Costa Rica should keep its tariff and non-tariff protection for rice imports intact. Thus, both objectives of rice self-sufficiency and national producers support would be achieved.

CONARROZ had its roots in the former Rice Office (Oficina del Arroz), created by Law 7014 in 1985. This organization was conceived with the aim of establishing a corporate relations scheme between rice producers and processors, to guarantee a rational and equitable participation of both actors in the industry, consistent with the interests of the most important food product in the nation's diet. The Rice Office regulated the entire industry. It managed production and inventories, import quotas, and rice exports and imports, and guaranteed the purchase of all local production. Nonetheless, imports of rice were open to third parties.[36]

In 1999, the rice producers proposed a group of improvements to the Rice Office law, in order to meet the new needs of producers, millers, and consumers. The proposal took a systemic approach, aiming at regional decentralization and greater participation of the producers in decision making on industry policies. In addition, the proposal asked for a change of its legal status, from a government organization to a public non-governmental body.[37] On June 10, 1999, the draft bill for the creation of CONARROZ was submitted to Congress. The objective was to create a corporate organization similar to other agricultural

[36] These rights changed after 1994, when the country ratified the Uruguay Round (Law 7473, Implementation of the UR Agreements).
[37] Congress files, Nº 13628.

organizations in the country.[38] On May 23, 2002, CONARROZ was created (Law 8285), with a public non-governmental legal status and its own equity.

Article 40 of Law 8265 grants CONARROZ the exclusive right of importing paddy rice with zero tariffs. Therefore, when imports are required for satisfying national demand, the government grants monopolistic tariff-free import rights to CONARROZ.[39]

The debate on the creation of CONARROZ took more than two years. The original draft bill was presented by a congressman of the National Liberation Party (PLN), then the government opposition party.[40] The main opposing actions against the creation of CONARROZ came from public and private organizations, including the National Federation of Consumers Associations (FENASCO), the Commission for the Promotion of Competition (COPROCOM), the Libertarian Movement Party (PML), and the Ministry of Foreign Trade (COMEX).[41]

The common opposition from these actors was against the exclusiveness granted to CONARROZ to import rice with zero tariffs, which contradicted the principle of free competition and affected consumer welfare. Ironically, another actor that opposed the bill was the Rice Office, since its responsibilities were going to be transferred to CONARROZ (Table 5).

The strongest support for the approval of Law 8265 came from the National Association of Rice Millers (ANINSA) and the National Chamber of Rice Producers. Both organizations were successful in obtaining two key results: the monopolistic right granted to CONARROZ for free rice imports and their participation in the regulation of producer prices. Other actors such as the National Council of Production (CNP), the National Office of Seeds, the Ministry of Agriculture (MAG) and the Ministry of the Economy (MEIC), wanted to maintain the roles and responsibilities that Law 7014 (the Rice Office) granted

[38] Several agricultural industries have a public non-governmental corporate model that regulates all productive activity. For instance, LAICA (sugar cane), CORBANA (bananas), ICAFE (coffee), and CORFOGA (cattle).

[39] Tariffs on rice are 35 percent for milled rice and 20 percent for paddy rice. A combination of World Trade Organization (WTO) safeguards (AoA, Art. 5 and GATT, Art. 19) has raised import tariffs to 71 percent (Polo-Cheva et al., 2006).

[40] The former congressman is currently the rice producers' representative on the board of CONARROZ.

[41] COPROCOM has been in favor of rice import liberalization and the elimination of price controls by the Ministry of the Economy (the Commission is an independent body at this ministry). Moreover, CONOPROM has opposed all agricultural corporations' market controls.

them. Nevertheless, their influence in general was limited. Rice producers and millers gained strong political support in Congress, particularly from the PLN.

Today, two draft bills put forth by the Libertarian Movement Party could change the present legal status of CONARROZ. The first bill intends to allocate part of the Corporation's rents obtained through speculation with imports to fund public school cafeterias. The second bill is proposing the elimination of import tariffs on all food consumption goods, including rice.

In November 2008, the Constitutional Court (Sala Cuarta) rejected the assertion of constitutional inconsistencies in the CONARROZ law, made by the National Association of Free Consumers in 2003. The main arguments of the Association were that consumers' rights were being violated and a private monopoly was being created by law. The Court ordered that a representative of a consumers rights association sit on CONARROZ's board of directors.[42]

[42] The board of CONARROZ consists of twelve representatives (five from producers, five from millers, and two from the government, from MAG and MEIC). CONARROZ is currently chaired by a representative of the rice millers. Between 2002 and 2006 (the Pacheco Administration), the president was a representative of the rice producers.

Table 5. Distributive Politics Spreadsheet: Creation of CONARROZ (Law 8285, 2002)

	Benefits from Supporting			Ability to Generate Political Action			Prediction
	Main Objectives (Incentives)	**Number**	**Resources**	**Number**	**Resources**	**Magnitude**	**Per Capita**
Supporting Interests							
National Production Council (CNP)	To maintain its role and responsibilities in the organization of the rice sector.	n.a.	n.a.	Low	Low	Low	Low
National Office of Seeds (part of MAG)	To continue the coordination of policies and programs for the rice sector.	n.a.	n.a.	Low	Low	Low	Low
Ministry of Agriculture (MAG)	To continue its mandate of supporting the development of the agricultural sector of the country.	n.a.	n.a.	Low	Medium	Low	Low
National Association of Rice Millers (ANINSA)	Control over the imports of rice.	High	High	Low	High	Low	High
National Chamber of Rice Producers	Tariff protection from rice imports. Closer participation in rice policy design, particularly on price regulation.	High	High	Low	High	Low	High
Ministry of the Economy	To maintain its discretion on rice chain price regulation and the approval of rice imports for national consumption.	n.a.	n.a.	Low	High	Low	Medium

Table 5., continued

	Benefits from Supporting			Ability to Generate Political Action			Prediction
	Main Objectives (Incentives)	**Number**	**Resources**	**Number**	**Resources**	**Magnitude**	**Per Capita**
Opposing Interests							
Rice Office	To maintain its participation in the regulation of prices, imports and exports, quality, and marketing of rice.	High	High	Low	Low	Low	Low
Ministry of Foreign Trade (COMEX)	The use of a rice import mechanism that guarantees the transparency and open access to all interested companies (in case of demand shortage, in accordance with Decree 2872 on import quotas for agricultural goods).	n.a.	n.a.	Low	High	Low	Low
National Federation of Consumers Associations (FENASCO)	To protect consumers from monopolistic practices and higher rice prices.	High	High	Low	Low	High	Low
Commission for the Promotion of Competition (COPROCOM)	To avoid monopolistic practices and price regulations that affect consumers.	n.a.	n.a.	Low	Low	Low	Low
Movimiento Libertario Party	To promote free competition in the rice market.	High	High	Low	High	Low	Low

n.a. = not applicable

Source: Authors' compilation based on interviews with key actors, Congressional archives research and literature review, adapted from an analytical framework proposed by Baron (2003)

8.2. The Case for Policy Intervention

In some cases, even if a market failure is not present (and thus efficiency is not the most important criterion for directing resource allocation), government intervention could be justified (Bozeman, 2002). For instance, when the main goal is to improve the poverty conditions of particular groups of households or increase income from traditional productive sectors, government policies could be necessary. Microeconomic efficiency ignores the distribution of income; thus, government interventions whose explicit objective is to redistribute income from one group of citizens to another to pursue a social goal could be justified, as long as they do not create additional distortions, negative welfare effects, or "second-best failures."

For instance, small farmers in developing countries could obtain temporary incentives to overcome productivity limitations. In this case, however, investing in irrigation infrastructure, modern seed varieties, transportation infrastructure, extension services, environmental management, systems and research and development (seed improvement, pest tolerance, nutritional value), appear to be the most coherent incentives to achieve higher farm productivity, sufficient production, and lower prices for consumers in the long run.

If food price stability for consumers (particularly for poorer households) is a policy goal, trade protectionism is an inefficient policy that creates important distortions and suboptimal outcomes, particularly in agricultural markets of developing countries. The theory and empirical evidence is clear in pointing out the need to identify the sources of productive limitations and competitive disadvantages from agricultural producers in developing nations, and to allocate resources and direct policies to correct directly those obstacles that impede productivity improvements. Historically, protectionist measures and other support mechanisms (i.e., price controls, input markets monopoly) in agriculture have been the result of interest group actions (large farmers) that seek specific rents, and do not benefit original or expected beneficiaries (small farmers and poor households).[43]

Another widely used argument for government intervention in agricultural markets is related to food security. The concept of food security has evolved during the last three decades. Currently, the widely accepted World Food Summit (1996) definition includes

[43] Schultz (1987), Bhagwati (1991), López and Herrera (2005).

food access, availability, food use, and stability (FAO, 2006).[44] From a policy perspective, two broad options have generally been followed by developing countries to achieve adequate levels of food security:[45]

- Food *self-sufficiency* or the provision of a level of food supplies from national resources above that implied by free trade. While this approach implies the provision of sufficient domestic production to meet a substantial part of national demand, it does not necessarily imply that all households in the country have access to all the food they require. In many countries which are net food exporters, substantial numbers of households are suffering from malnutrition.
- Food *self-reliance* or a set of policies where the sources of food are determined by international trade patterns and the benefits and risks associated with it. This strategy has become more common as global trade has become freer. It is even argued that improved food security, as well as efficiency gains, may be achieved more satisfactorily, even in countries where agriculture remains a major contributor to GDP, by shifting resources into the production of non-food export crops and importing staple food requirements.

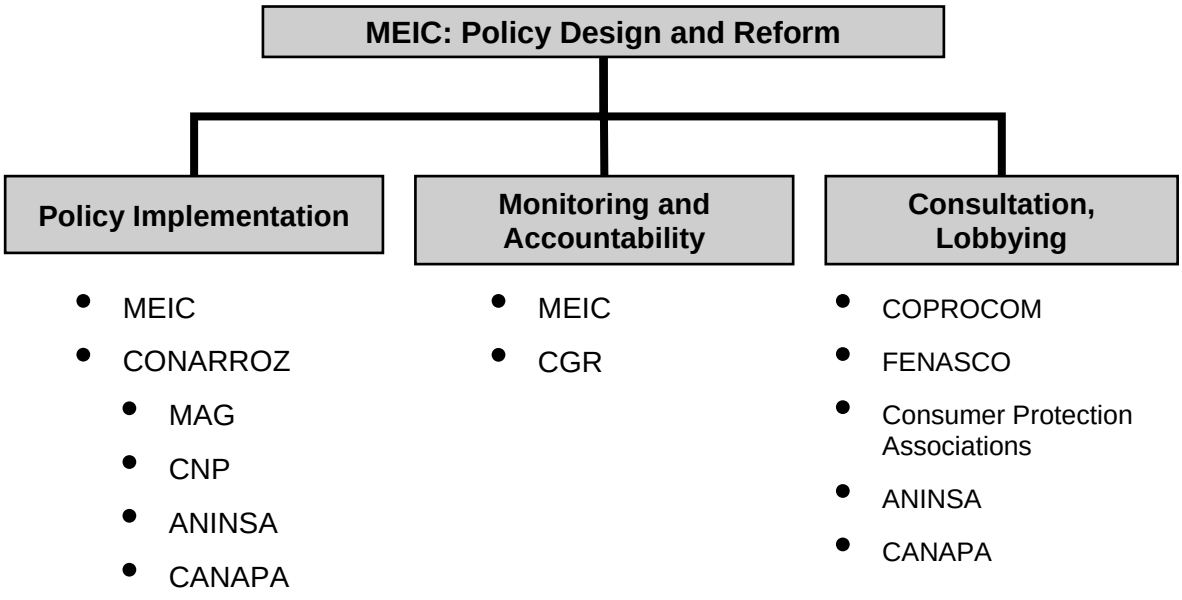
According to Johnston (1996), countries should take advantage of international markets to ensure food security. Trade encourages the efficient transfer of food supplies from surplus areas to others where there are deficits. Therefore, *free* trade helps developing countries to become *self-reliant* instead of wasting scarce resources trying to become *self-sufficient*.

[44] "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life." (World Food Summit, 1996). The definition was redefined in 2002: "Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life." (FAO, 2002).
[45] FAO (2003).

8.3. Institutional Setting

The current institutional setting of rice promotion is described in Figure 8. Notwithstanding the leading policy, implementation, and monitoring role of the Ministry of the Economy, CONARROZ and other private organizations of the rice producers have significant influence on policy decisions. The accountability actions of the Comptroller General are important but not sufficient to influence a clearer implementation of the policy. Consumer protection organizations (both public and private) lobby in favor of rice market openness and consumer benefits, with limited impact on rice policy.

Figure 10. Institutional Setting of Rice Promotion



8.4. Policy Outcomes and Conclusions

Generally speaking, the agricultural sector in Costa Rica is a *dual* one. On the one hand, non-traditional export activities have grown steadily in the last 20 years, mainly as a result of incentives and support policies from the government. On the other, traditional agriculture saw its productive support measures significantly reduced. The remaining most relevant policy instrument for traditional agriculture has been import tariff protection, on so called

"sensitive" agricultural imports like rice, beans, poultry, sugar, and dairy products.[46] In the case of rice, price controls and the hedge fund managed by CONARROZ are important additional support instruments.

Rice is the main staple food in Costa Rica for more than 4 million people. It is an important source of calories and protein (22 percent of total calories and 16 percent of protein intake), and accounts for 8 percent of the total basic food basket cost in Costa Rica (Polo-Cheva et al., 2006). According to FAOSTAT (2006), the country's per capita consumption is 57 kg annually, second in Latin America and close to Japan and South Korea's levels.

At the same time, rice has been one of the most heavily supported commodities. The support measures for rice production in Costa Rica have been estimated using the OECD's Producer Support Estimate (PSE) methodology.[47] Rice producer support in Costa Rica (45 percent) is greater than in the United States (31 percent) and the European Union (32 percent) and, excluding Japan and South Korea, close to the OECD average (Todd et al., 2004; OECD, 2006).

Rice is also one of the commodities most protected from international competition in Costa Rica. Although original tariffs were 35 percent for milled rice and 20 percent for paddy rice, due to the combination of various World Trade Organization (WTO) safeguards (AoA Art 5. and GATT Art. 19), they were increased to 71 percent. In addition, sanitary and quality inspection fees for imported rice were raised from US$9.86/MT to US$19/MT, which is a non-tariff barrier to trade inconsistent with WTO rules.

The local producers' lobbying activities for protection are effective. The case of rice sector protection negotiation under DR-CAFTA is not an exception. To address "asymmetrical development" and transition issues, the rice sector of Costa Rica obtained a lengthy tariff phase-out schedule (20 years) in the Agreement.[48] Stewart (2007) estimated the social impact of the tariff phase-out period obtained by rice producers as part of the DR-CAFTA negotiations. The author reports a present value of US$895 million from welfare loss and inefficiencies in resource allocation due to the extended period of tariff protection

[46] According to CGR (2004b), rice is a sensitive product because of its relevance for national nutrition, its importance for poor household consumption, and *market concentration* in a few companies.
[47] PSE include market price supports, payments based on output, input subsidies, fixed capital formation, on-farm services, and other non-production supports (OECD, 2006).
[48] Condo et al. (2005).

elimination. In addition, the net present value of income transfers from consumers to rice producers is estimated at US$428 million.

Rice prices are fixed at every level of the supply chain. For years, and since the creation of CONARROZ, domestic prices have been higher than world prices, affecting consumers and poorer households in particular. Trejos et al. (2007) report an 8 percent increase in the total basic food basket because of higher local prices compared to international CIF prices in a small group of agricultural foods alone (rice, poultry, dairy, sugar). Umaña and Figueroa (2002) estimated that tariff protection of agricultural goods creates a burden of 17.5 percent of the income of the poorest 20 percent families in the country.

From another perspective, Petrecolla (2006) found that from 1995 to 2005, Costa Rican consumers have transferred US$396 million to rice producers. The impact of this transfer on the poorest households represents between 7 percent and 8 percent of their per capita income, which contrasts with the burden on the richest households (0.4 percent to 0.6 percent).

The premise of CONARROZ was that a mechanism was needed to protect national producers from adverse international prices and improve local conditions. Local rice production has been decreasing since 2000.[49] At the same time, productivity did not increase, remaining around 4 tons per hectare.[50] This result contrasts with the original goals of CONARROZ, to create support mechanisms for local production growth and productivity improvement. When compared to a leading world rice producer such as the United States, Costa Rica has been losing competitiveness for more than a decade, while other countries have increased productivity significantly.[51]

At the same time, rice imports have been growing, which is a logical result of lower international prices. In order to import rice, after 2002 the government lowered the tariff to zero and gave monopolistic import rights to CONARROZ. Since then, this Corporation has been importing rice through this mechanism and cashing in monopolistic rents. For instance, in 2005-2006, 60 percent of total supply was imported.

[49] This tendency started many years ago, when traditional crops lands were shifted to non-traditional export crops or other productive activities with higher returns.
[50] Authors' estimates with data from MercaNET-CNP.
[51] Costa Rica's rice imports, with some exceptions, come almost entirely from the United STates.

CONARROZ sells the imported rice to the mills as if they had paid the whole tariff. The rent perceived (US$6.7 million in 2004) is transferred to producers which in most cases are also millers. The rent is then assigned by quantity produced. As a result, 33 producers received 50 percent of the import rents, while 773 producers received just 13 percent (Polo-Cheva et al., 2006). A report by the Comptroller General published in 2004 indicated several problems with the use of the hedge fund managed by CONARROZ. The central conclusion was that the original objectives of improving rice productivity were not being addressed at all (CGR, 2004a).

The problems with rice policy in Costa Rica have not changed since then. Productivity remains unchanged, and many small producers have been displaced from the market. Moreover, in 2007-2008, due to the exponential growth of international rice prices (a "counterfactual" situation not present before), all of the limitations of the current policy were accentuated. In 2008 national production increased, more because of clear market signals (higher prices) than other support measures. In addition, consumer prices have grown significantly, in spite of the availability of the hedge fund managed by CONARROZ to compensate for strong price fluctuations. In future years, the final assessment will come, depending on the movement of international rice prices.

Rice protectionism in Costa Rica is the result of successful tariff- and rent- seeking activities by well-organized farmers, and the unclear and misplaced government concern over the potential negative effects of trade liberalization on small farmers and consumers. Instead of pursuing a sound productive development policy for the sector (with technology upgrading, irrigation infrastructure investments and water resources management programs, R&D, pests control analysis, and soil degradation control, among others), the main PDP targeting rice producers and millers has been import protection (through tariff and non-tariff barriers) and price controls. Both instruments have been unsuccessful in improving productivity. They have also created significant rents for rice millers through speculation, transferred significant income from consumers to producers, and maintained local prices above international prices for years.

The protection of rice production in Costa Rica seems to be a clear case of "second-best failures" or unsuccessful PDPs, incoherent in terms of sustainability and contradictory to its original objectives of food security and social returns. In spite of their "good

intentions," PDPs designed to support one segment of the economy (the rice sector) have led to a dramatic loss of competitiveness and costly damage to the natural resource base. Much of this costly environmental damage goes unaccounted for in policy evaluation and rice farm productive strategy.[52]

The main beneficiaries of agricultural protectionism in Costa Rica have traditionally been medium and large farmers and those whose primary source of income is not agriculture (Corrales, 1985; Figueroa and Umaña, 2002; Celis, 2007). For instance, Figueroa and Umaña (2002) suggest that small rice farmers without access to irrigation infrastructure (even with tariff protection) are not competitive, while large farmers that have access to irrigation could compete with international prices and therefore do not require import protection.

8.5. Recommendations for PDP Improvement

The main recommendation for rice policy improvements are:

- Conduct an impact evaluation of CONARROZ, from an economic, social and environmental perspective.
- Eliminate tariff and non-tariff barriers to the imports of rice.
- Eliminate price regulations for rice.
- Enforce Law 8285 and effectively allocate CONARROZ's resources to projects that help improve the productivity of rice production.
- Create public-private partnerships between government organizations and rice producers in order to strengthen competitive advantages of the rice sector. Any support mechanisms should be conditioned on producers' performance and real business capacity.
- In the case of low-productivity rice farmers, policies to shift resources to alternative high income elasticity agricultural production activities should be promoted.
- Support temporary subsidies for poor households (consumers) with CONARROZ's hedge funds in periods when international prices are steadily growing.

[52] More than 60 percent of national rice production comes from the Tempisque River Basin (TRB) area. Abundant water has been used in an unsustainable way by rice producers. In addition, soil nutrient depletion and intensive fertilizer use have generated important environmental impacts (Arezzo, 2001; OET, 2005).

9. Lessons Learned

Productive Development Policies (PDPs) are necessary to improve productivity. When correctly designed and dimensioned, PDPs can effectively impact economic growth and development. The five case studies analyzed indicate that addressing the arguments for policy intervention and incorporating the results of the evaluation into policy design and reform are necessary steps for success.

The main lessons learned from the present study are the following:

- The present study of PDPs in Costa Rica suggests, from a theoretical perspective, the presence of market failures that would justify government intervention in all cases, with the exception of rice protection, under particular assumptions.
- From a policy design and implementation point of view, policymakers did not make a clear case that market failures had occurred.
- In all cases, except for the PROPYME program, government failures appear to be the main reason for policy intervention.
- Market failures are not being optimally addressed in any case. However, there is room for institutional improvements that could contribute to the correction of such market failures (Table 6).
- The political economy analysis suggests the existence of interest groups supporting PDPs and their eventual reform. In fact, strong opposition to changes in the status quo was identified only in the case of rice protection. Notwithstanding, the question arises, why PDP reform for productivity improvement has not materialized in the case of Costa Rica. Possible explanations for this outcome are:
    - The lack of a clear identification of market and government failures for public intervention, and the limited understanding of appropriate policy instruments to address those failures optimally.
    - The focus on accounting procedures instead of accountability mechanisms in most public institutions does not create institutional incentives for the implementation of a monitoring and impact evaluation system for PDPs.

- The absence of a sound monitoring and impact evaluation system in each PDP (with a comprehensive cost-benefit analysis) impedes the creation of knowledge for policymakers to adjust and improve the implementation of PDPs.[53]
- The limited leadership at the highest political level and weak coordination among agencies and with other PDPs, might prevent the enactment of reforms that would improve policy performance and outcomes.

Table 6. Costa Rica: PDPs Assessment Summary

PDP	Policy Justification (Market Failure – Government Failure)	Market Failure Optimally Addressed	Institutional Setting Needs
Export Diversification and FDI Attraction: Export Processing Zones	Government Failure No Market Failure (Origins) Market Failures (Recently)	Not Optimally Addressed	Leadership at highest political level with stronger coordination with other PDPs
Technology Transfer: Backward Linkages between MNCs and Local Firms (CR-Provee)	Market Failure Government Failure	Not Optimally Addressed	Widening of program scope and stronger coordination with other PDPs
R&D and other Innovation Activities: PROPYME Program	Market Failure No Government Failure	Not Optimally Addressed	Improvements in program implementation and stronger coordination with other PDPs
New Productive Activities: Sustainable Tourism	Market Failure Government Failure	Not Optimally Addressed	Coherence of PDP goals Leadership at highest political level with stronger coordination with other PDPs
Food Security and Agricultural Protection: The Case of Rice	No Market Failure Government Failure	Not Applicable	Elimination of import monopoly and trade barriers Program focus only on productivity improvements

Source: Authors' compilation.

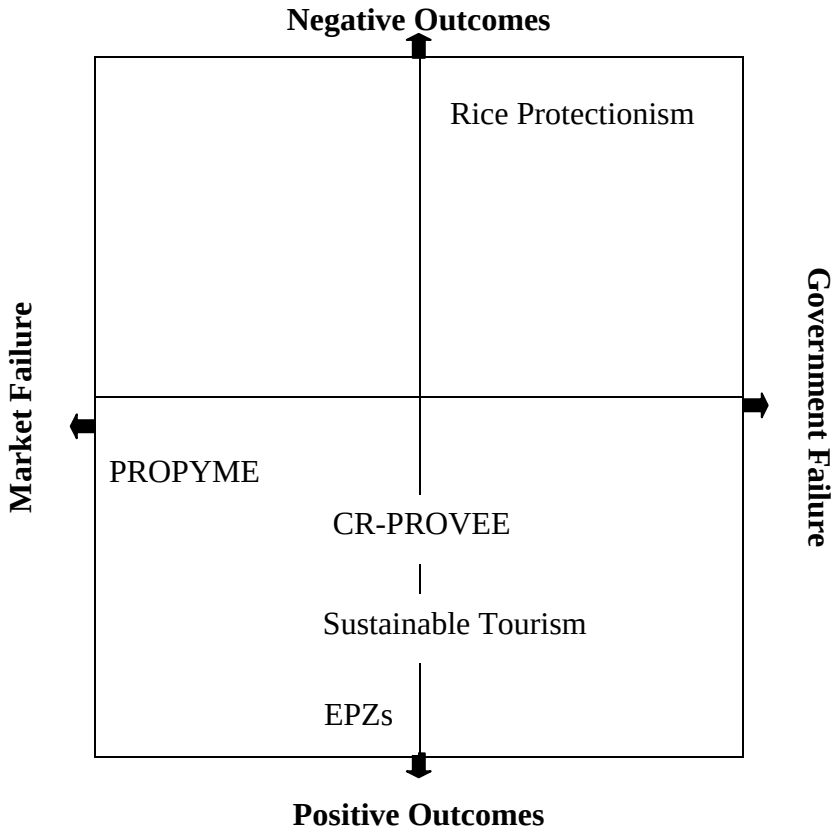
[53] An impact evaluation system seeks to answer questions like: How did the PDP affect the beneficiaries (for instance, productivity)? Were any improvements a direct result of the PDP, or would they have happened anyway? Could PDP design be modified to improve impact? Are resources being spent efficiently? See Baker (2000) for a comprehensive approach.

10. Concluding Remarks

Generally speaking, most PDPs in Costa Rica have emphasized selected interventions, narrow sector policies, and targeted instruments, rather than addressing global disadvantages in the country's business climate. Improvement in key areas (e.g., infrastructure, technology, business regulations, and market distortions) to enhance competitiveness and create the required conditions for productivity growth is a policy objective still in process, with positive outcomes but important limitations so far.

None of the PDPs analyzed are addressing market failures optimally. Still, three of them (EPZs, CRP, and sustainable tourism) show positive policy outcomes. On the other hand, rice protectionism generates negative outcomes (Figure 11).

Figure 11. Costa Rica: PDPs and Policy Outcomes



Source: Authors' compilation.

This study has shown that government failures rather than market failures are the main justification for PDPs in Costa Rica. Even in the presence of market failures, the instruments applied in the policy design are not necessarily the most efficient (according to economic theory), but are the most politically feasible options (lower political cost). Moreover, lack of policy evaluation and monitoring prevents the required adjustments and corrections of such policies in accordance with changing circumstances.

The design and implementation of industrial policy should be based on a sound, formal, and well-documented analysis of market failures, rather than ideological beliefs or a *new* development planning euphoria. In the case of Costa Rica, a good start could be to optimally address government failures, removing those policies that created them or adjusting the instruments and scope of current PDPs, subject to the condition of achieving the most efficient use and allocation of resources.

The study identified a lot of different organizations that carry out a wide variety of programs, with little or no coordination among them. This situation naturally raises the question of whether better coordination might not be one of the key elements that would result in better PDP performance. Given that coordination failures among main actors and other relevant PDPs exist, further study of the main causes of this situation is warranted, as well as a comprehensive analysis of potential areas, actors, and political support for policy reform.

It would be important to consider an *umbrella* approach in the case of those policies that could reinforce and create feedback channels between each other. In order to achieve this objective, more institutional coordination at the administrative level is required. The creation of a national council on innovation, competitiveness and growth policy (NCICG) is a necessary step in this regard. The council should be led by the president of the country, following the successful experience of leading countries such as Finland, Ireland, and Singapore. A key task for this council would be the identification and removal of existing obstacles to good policy coordination. The NCICG should incorporate representatives from business, academia, and civil society organizations.

References

Acemoglu, D. and T. Verdier 2000. "The Choice between Market Failures and Corruption." *American Economic Review*. Mar 2000; Vol 90; Nº1.

Arezzo, R. (2001): *Abiotic Study of the Impact of Flooded Rice Production on the Tempisque River Watershed*. Woodrow Wilson Foundation.

Arias, A. et al. 1995. *La Actividad Turística como Fuente Generadora de Ingresos al Estado Costarricense*. Unpublished Thesis. Department of Public Administration, University of Costa Rica.

Baker, J. 2000. *Evaluating the Impact of Development Projects on Poverty. A Handbook for Practitioners.* The World Bank, Washington D.C.

Banco Central de Costa Rica. 2008. *Informe sobre flujos de Inversión Directa en Costa Rica 2007-2008*. San José: Department of Macroeconomic Statistics.

Baron, D. 200. *Business and its Environment*. Fourth Edition. Prentice Hall.

Baumol, W. 2002. *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism.* Princeton University Press.

Beltrán, C. and A. Gutiérrez. 2007. *La Vinculación de Suplidores Domésticos con Multinacionales en Costa Rica.* Department of Economics, University of Costa Rica. Manuscript.

Besley, T. 2004. *The New Political Economy*. Keynes lecture delivered at the British Academy on October 13th 2004. Manuscript.

Bhagwati, J. 1991. *Political Economy and International Economics.* Cambridge, Massachusetts: MIT Press.

Banco Interamericano de Desarrollo. 2005. *Informe de Terminación de Proyecto*. "Desarrollo de Proveedores para Empresas Multinacionales de Alta Tecnología." Project ATN/ME-6751-CR TC 99-010-43-CR, MIF/AT-304. September.

Bozeman, B. 2002. "Public-Value Failure: When Efficient Markets May Not Do." *Public Administration Review*. 62(2).

Buchanan, J. and V. Vanberg. 1988. "The Politicization of Market Failure." *Public Choice*. 57(2).

Caselli, F. 2005. “Accounting for Cross-Country Income Differences.” In Aguion, P. and S. Durlauf, eds., *Handbook of Economic Growth*, Elsevier North-Holland 1A: 679-741.

Celis, R. 2007. “Comment.” In C. Pomareda and G. López, Eds., *Análisis de Prioridades de Políticas y Organizaciones para la Agricultura de Costa Rica, 2006-2010*. Documentos 16. San José: Academia de Centroamérica.

Cohen, S. 2001. *Microeconomic Policy*. London: Routledge. Comisión Económica para América Latina y el Caribe. 2008. *La Transformación Productiva 20 Años después. Viejos Problemas, nuevas Oportunidades.* LC/G.2367(SES.32/3). Santiago, Chile.

Condo, A., F. Colburn, and L. Rivera. 2005. “The United States Central America Free Trade Agreement (CAFTA): Negotiations and Expected Outcomes.” *ESRI Working Papers 28*. Tokyo, Japan.

Contraloría General de la República. 2008. *Informe del Estudio realizado en el Instituto Costarricense de Turismo (ICT) sobre el Proyecto Turístico del Golfo de Papagayo.* Report Nº DFOE-ED-5-2008. March 31.

_____. 2008b. *Informe sobre la Gestión del MINAET en las Áreas Silvestres Protegidas Costeras del País*. Report Nº DFOE-PGAA-59-2008. December 10.

_____. 2006. *Análisis y Opinión sobre la Gestión de los Gobiernos Locales.* San José, Costa Rica.

_____. 2004ª. *Concesión de Incentivos a Empresas Turísticas con Fundamento en la Ley de Incentivos para el Desarrollo Turístico Nº 6990*. Report Nº DFOE-FEC-12-2004. September 6.

_____. 2004b. *Informe sobre los Resultados Obtenidos en el Estudio Especial acerca de la Gestión de la Corporación Arrocera Nacional.* Report Nº DFOE-AM-16-2004. August 4.

Corrales, J. 1985. *Políticas de Precios y Subsidios en Costa Rica.* Serie Estudios 3. Academia de Centroamérica.

Daude, C., and E. Fernández-Arias. 2008. “Notes on Productivity and Investment in Latin America and the Caribbean.” Washington, DC: Inter-American Development Bank. Manuscript.

FAO. 2002. *The State of Food Insecurity in the World 2001*. Rome.

FAO. 2003. *Trade Reform and Food Security. Conceptualizing the Linkages.* Commodity Policy and Projections Service. Commodities and Trade Division. Rome.

FAO. 2006. "Food Security." *Policy Brief*. June 2006, Issue 2.

Figueroa, L. and V. Umaña. 2002. *Los Retos de la Política Comercial y de la Agricultura en Centroamérica: Elementos para la Discusión*. Working Paper CEN 560, CLACDS-INCAE Business School.

Fintra. 1993. CODESA. Origen y Consecuencias, 1972-1993. San José: Litografía e Imprenta LIL, S.A. D. Meléndez and M. Meza.

Ferreira, P., S. Pessoa, and F. Veloso. 2008. "The Evolution of International Output Differences (1970-2000): From Factors to Productivity." *The B.E. Journal of Macroeconomics*: 8(1) (Topics), Article 3.

FutureBrand. 2008. *Country Brand Index 2008: Insights, Findings and Country Rankings*. FutureBrand and Weber Shandwick.

Groote, R. 2005. *Costa Rica. Proyecto de Desarrollo de Proveedores para Empresas Multinacionales de Alta Tecnología*. ATN/ME-6751-CR. Final evaluation. May.

Hausmann, R. and B. Klinger. 2006. "Structural Transformation and Patterns of Comparative Advantage in the Product Space." *CID Working Paper* Nº128, Center of International Development, Harvard University.

Hausmann, R., D. Rodrik and C. Sabel. 2008. "Reconfiguring Industrial Policy. A Framework with an Application to South Africa." *CID Working Paper* No. 168.

Helpman, E. 2004. *The Mystery of Economic Growth*. Cambridge, MA: Harvard University Press.

Instituto Costarricense de Turismo. 2007. *Plan Nacional de Desarollo Turístico de Costa Rica 2002-2012*. Updated version, October 2007. San José: ICT.

Inter-American Development Bank.2008. *Industrial Policies in Latin America and the Caribbean.* Country Studies Initiative, Call for Research Papers. Washington, D.C.

Jiménez, R., E. Robles, and G. Arce. 2009. "Educación y Crecimiento Económico en Costa Rica." In Mesalles and Céspedes, eds., *Obstáculos al Crecimiento Económico en Costa Rica*. San José, C.R.: Academia de Centroamérica.

Johnsen, J., T. Bieger, and R. Scherer. 2008. "Indicator-based Strategies for Sustainable Tourism Development." *Mountain Research and Development* 28(2).

Johnston, D. 1996. “Food Security and Sustainable Agriculture.” *The OECD Observer*. Nº 203.

Klenow, P. and A. Rodríguez-Clare. 1997. “The Neoclassical Revival in Growth Economics: Has it Gone Too Far?” In Bernanke, B. and J. Rotemberg, Eds., *NBER Macroeconomics Annual*, Cambridge, MA: The MIT Press.

Klinger, B. and D. Lederman. 2005. *Sectoral Concentration in the Search for Innovations and Export Booms*. Washington, D.C.: The World Bank. Manuscript.

Krueger, A. 1990. “Government Failures in Development.” *Journal of Economic Perspectives*. 4(3).

López, G. and R. Herrera, Eds. 2005. *Agricultura y Desarrollo Económico*. Celebración de los Cuarenta Años de la Publicación del Libro *Transforming Traditional Agriculture* de Theodore Schultz. II Jornada Anual. San José: Academia de Centroamérica.

Martin, S. and J. Scott. 1998. *Market Failures and the Design of Innovation Policy*. Report prepared for the Working Group on Technology and Innovation Policy. Division of Science and Technology, OECD.

Melo, A. and A. Rodríguez-Clare. 2006. *Productive Development Policies and Supporting Institutions in Latin America and the Caribbean*. IDB Research Department Competitiveness Studies Series. Working Paper C-106.

Monge-González, R. and J. Hewitt. 2008. *Innovation, Competitiveness and Growth: Performance in Costa Rica and its ICT Sector*. Costa Rica Digital Nº5. Fundación CAATEC.

Monge-González R., J. Rosales-Tijerino, and G. Arce. 2005. *Cost-Benefit Analysis of the Free Trade Zone System: The Impact of Foreign Direct Investment in Costa Rica*. OAS Trade, Growth and Competitiveness Studies.

Monge-González, R. and C. González-Vega. 1994. *Política Comercial, Exportaciones y Bienestar en Costa Rica.* Academia de Centroamérica. San José, Costa Rica.

Nash, R., A. Hudson and C. Luttrell. 2006. *Mapping Political Context: A Toolkit for Civil Society Organizations.* Research and Policy in Development Programme (Rapid). Overseas Development Institute, London.

Noland, M. and H. Pack. 2003. *Industrial Policy in an Era of Globalization: Lessons from Asia*. Washington, D.C.: Institute for International Economics.

Organización de Estudios Tropicales. 2005. *El Manejo del Riego en el Cultivo del Arroz*. San José: OET.

Organization for Economic Cooperation and Development. 2006. "Agricultural Policies in OECD Countries: Monitoring and Evaluation." Paris.

Pack, H. and K. Saggi. 2006. "Is There a Case for Industrial Policy? A Critical Survey." *The World Bank Research Observer* 21(2): 267-297.

Paus, E. and K. Gallagher. 2008. "Missing Links: Foreign Direct Investment and Industrial Development in Costa Rica and Mexico." *Studies in Comparative International Development* 43. New York: Springer.

_____. 2006. *The Missing Links between Foreign Investment and Development: Lessons from Costa Rica and Mexico*. Global Development and Environment Institute. Tufts University.

Paus, E. and J. Cordero. 2007. *Foreign Investment and Economic Development in Costa Rica: The Unrealized Potential.* Working Group on Development and Environment in the Americas.

Petrecolla, D. 2006. *Costa Rica. Agrocadena del Arroz. Estudio Sectorial de Competencia*. Project Report prepared for The World Bank. Manuscript.

Polo-Cheva, D., L. Rivera, and V. Umaña. 2006. *Perverse Subsidies and Unsustainable Development: The Case of Rice in Costa Rica.* Power Point presentation. InWEnt/INCAE Business School.

Pratt L. and L. Rivera. 2004. Perspectivas sobre la Competitividad del Turismo Costarricense. In *Revista Fragua* 1 .

Pratt, L., L. Rivera and R. Quiroga. 2005. *El Salvador. Análisis de Competitividad y Medio Ambiente. Prioridades para la Gestión Ambiental.* Estudios Económicos y Sectoriales, RE2-05-008. Inter-American Development Bank.

PROCOMER. 2008. *Balance de las Zonas Francas 2003-2007. Beneficio Neto del Régimen para Costa Rica.* Department of Economic Research.

Programa Estado de la Nación. 2007. *Decimotercer Informe Estado de la Nación en Desarrollo Humano Sostenible*. San José, CR: El Programa.

Programa Estado de la Nación. 2008. *Decimocuarto Informe Estado de la Nación en Desarrollo Humano Sostenible*. San José, CR: El Programa.

Rivera, L. 2007. *Costa Rica Public Expenditure Review*. Ecoanálisis report prepared for The World Bank. Manuscript.

Rodríguez-Clare, A. 2005. "Microeconomic Interventions after the Washington Consensus." Working Paper Nº 524. Research Department. Inter-American Development Bank.

Rodríguez-Clare, A., A. Trejos, and M. Sáenz. 2004. Análisis del Crecimiento Económico en Costa Rica: 1950-2000. In M. Agosín, R. Machado and P. Nazal, Editors, *Pequeñas Economías, Grandes Desafíos. Políticas Económicas para el Desarrollo de Centroamérica.* Inter-American Development Bank.

Rodrik, D. 2004. *Industrial Policy for the Twenty-First Century*. Harvard University. Manuscript.

_____. 2007. *Normalizing Industrial Policy*. John F. Kennedy School of Government, Harvard University. Manuscript.

Román, M. 2007. *Dinámica del Turismo y Desarrollo Inmobiliario en Costa Rica*. Iniciativa Colaborativa de Diálogo e Investigación sobre Dinámicas Territoriales en Centroamérica. San Salvador: Prisma.

Salas, A. 2008. *Desarrollo Hotelero e Inmobiliario en Zonas Costeras de Guanacaste*. Power Point presentation. April 2008. CCH-Alberto Salas R. Arquitectos.

Saggi, K. 2002. "Trade, Foreign Direct Investment, and International Technology Transfer: A Survey." *World Bank Research Observer* 17(2): 191–235.

Santamaría, V. and L. Pratt. 2007. *Turismo Generador de Desarrollo*. Power Point presentation. Prepared for Estado de la Nación en Desarrollo Sostenible Program.

Schultz, T. 1987. "Tensions between Economics and Politics in Dealing with Agriculture." In G. M. Meier, Ed., *Pioneers in Economic Development.* Second Series. New York: Oxford University Press.

Smeets, R. 2008. "Collecting the Pieces of the FDI Knowledge Spillovers Puzzle." *The World Bank Research Observer*.

Stewart, R. 2007. *Una Estimación de los Costos de la Estrategia Comercial Mercantilista aplicada por el Gobierno de Costa Rica en el Tratado de Libre Comercio entre*

Estados Unidos, Centroamérica y República Dominicana. Stewart Associates. Alajuela, Costa Rica.

Todd, J., P. Winters, and D. Arias. 2004. "CAFTA and the Rural Economies of Central America: A Conceptual Framework for Policy and Program Recommendations." *Economic and Sector Study Series* RE2-04-016. Inter-American Development Bank.

Trejos, A., L. Rivera, and V. Umaña. 2007. *Efectos de la Liberalización del Comercio Agrícola: el Caso de los Productos Lácteos en Costa Rica ante el DR-CAFTA*. Project Report prepared for the Inter-American Development Bank. Manuscript.

Winston, C. (2006): *Government Failure versus Market Failure: Microeconomic Policy Research and Government Performance*. AEI-Brookings Joint Center for Regulatory Studies, Washington, D.C.

World Bank. 2007. *World Development Report 2008. Agriculture for Development.* Washington, D.C.

World Travel and Tourism Council. 2008. *The 2008 Travel and Tourism Economic Research. Costa Rica.* Tourism Satellite Accounting. WTTC and Accenture.

Additional References (Congressional Archives)

Ley de Fomento de las Exportaciones, No 5162, 1972.

Ley de Creación de Zonas Procesadoras de Exportación y Parques Industriales, No 6695, 1981.

Ley de Régimen de Zona Franca, No 7210, 1990.

Ley de Reformas a la Ley de Régimen de Zonas Francas, No 7830, 1998.

Reglamento a la Ley de Zona Franca. Decreto No 34739.

Ley de Fortalecimiento de la Pequeña y Mediana Empresa, No 8262. 2002.

Ley Promoción Desarrollo Científico y Tecnológico y Creación del MICYT (Ministerio de Ciencia y Tecnología No 7169. 1990.

Reglamento de PROPYME. Decreto N° 31296 -MICIT-MEIC.

Comisión Especial para el estudiar proyecto de incentivos turísticos. Expediente Número 10098. Ley de Incentivos al Desarrollo Turístico.

Comisión Mixta del Sector Agropecuario. Expediente Número 13628. Ley de Creación de la Corporación Arrocera.

COPROCOM. *Derogatoria Tácita del Artículo 42 de la Ley de Creación de la Oficina del Arroz, Ley No 7014 del 28 de noviembre de 1985.* Boletín Informativo Edición #20. Año 2- Mes Febrero, 2002.

COPROCOM. *Informe del Proyecto de ley No 13629 "Creación de la Corporación Arrocera"*. Jurisprudencia Año 2000. Sesión Ordinaria # 02-2000. Acuerdo: Artículo Octavo.

Ley 6289. Ley de la Oficina Nacional de Semillas.

Ley 6990. Ley de Incentivos para el Desarrollo Turístico.

Ley 7014. Ley de Creación de la Oficina del Arroz.

Ley 7293. Ley Reguladora de todas las exoneraciones vigentes, su derogatoria y sus excepciones.

Ley 8285. Ley de Creación de la Corporación Arrocera.

Ley 7472. Ley de Promoción de la Competencia y Defensa Efectiva del Consumidor.

Annex

Appendix Table 1 List of Interviewees

Company/Organization	Responsibility	Name
BAXTER	Plant Manager	Chester Zelaya
INTEL CR	Plant Manager	Karla Blanco
PENN UNITED	Quality Engineer	Marcio Enamorado
ETIPRES	Accounting Manager	Esmeralda Solera
PLASTIPOL	Technical Manager	Roberto Vásquez
TECNIBANDAS	General Manager	Luis Gustavo Monge
SERPIMETAL	General Manager	Carlo Magno
INSE	President	Anselmo Sánchez
HS METALMECANICA	Production Manager	Herman Salas
AKA PRECISION	General Manager	Angela García León
LITOGRAFIA MORAVIA	Sales Manager	Jorge Quesada
FEMA	President	Luis Fernando Masís
FORTECH	General Manager	Guillermo Pereira
HOSPIRA	Plant Manager	Isaías González
Hewlett Packard	Accounting Manager	Paul Sánchez
KINETOS	General Manager	Mario Feoli Escalante
TURRONES DE COSTA RICA	Sales Manager	Alberto Soto
MAFAM	General Manger	Vanesa Gamboa
FLOREX	Vice-President	Silvia Chávez
DELISABOR	General Manager	Luis Diego Alfaro
ASOMETAL	General Manager	Angela García León
CORAAL	General Manager	Angela García León
Chamber of Industries	Project Director	Guillermo Velásquez
MAFAM	Sales Manager	Harold Ortiz
PROCOMER	Former General Manager	Eduardo Alonso
CINDE	Executive Manager	Gabriela Llobet
AZOFRAS	Director	Timmothy Scott
COMEX	Investment Director	Marvin Rodríguez
CR Provee	Director	Roberto Calvo
GLOBAL PARK	General Manager	Carlos Wong
CINDE	Former Executive Manager	Anabel Gónzalez
CINDE	Former Director	Richard Beck
CONICIT	Executive Manager	Alejandra Araya
CONICIT	Legal Advisor	Alfonso Chacón Mata
Central Bank of Costa Rica	Former President	Eduardo Lizano
National Association of Consumers	President	Juan Ricardo Fernández
ANINSA	President	Eduardo Rojas
CONARROZ	President	Eduardo Rojas

National Chamber of Rice Producers	President	Oscar Campos
Ministry of the Economy	Vice Minister	Eduardo Sibaja
Ministry of Agriculture	Vice Minister	Carlos Villalobos
PRUGAM	Former Director	Luis López
Costa Rican Tourism Institute	Director of Tourism Advisory	Walter Monge Edwards
National Chamber of Tourism	President	Gonzalo Vargas
Costa Rican Tourism Professionals Association	President	Carlos Lizama
Commission for the Promotion of Competition (COPROCOM)	Executive Director	Ana Victoria Velázquez
ProDesarrollo Internacional	Director	Rafael Celis