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Abstract

We analyze five Productive Development Policies (PDPs) implemented in Costa Rica to assess whether these policies are justifiable based on the existence of market failures. We find that PDPs are not addressing market failures optimally. Moreover, this study shows that government failures rather than market failures are the main source of PDPs justification. Even in presence of market failures, the instruments applied in the policy design are not necessarily the more efficient (according to economic theory), but the more politically feasible options (lower-political cost). Besides, lack of policy evaluation and monitoring prevents the required adjustments and corrections of such policies, according to changing circumstances. The case studies indicate that addressing the arguments for policy intervention and incorporating the results of the evaluation into policy design and reform are necessary conditions for success. The improvement of key areas (like infrastructure, technology, business regulations, and market distortions) to enhance competitiveness and create the required conditions for productivity growth is a policy objective still on process, with positive outcomes but important limitations so far. An umbrella approach in the case of those PDPs that reinforce and create feedbacks between each other is necessary for productivity growth.

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

The traditional discussion on industrial policy or Productive Development Policies (PDPs) in developing countries has focused on “whether” instead of “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.¹

In a broader sense, PDPs should be designed to improve the quality of the national business climate. As far as a sound business development and competitiveness strengthening process is created, market forces should play the central role for 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 governments 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 60s and 70s, the country adopted PDPs based on industrial protectionism and the entrepreneurial state model. After the economic crisis at the beginning of the 80s, 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.

¹ 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).
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, 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, 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 to what extent PDPs correctly addressed market failures. Additionally, an implementation analysis is conducted to identify possible agency problems and institutional coordination failures. Besides, there is an identification of possible government failures resulting from non-optimal or wrongly implemented PDPs. In this way, the present 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. It is not intended to make an assessment of 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 the last decades, with the notorious exception of the 1980-82 crisis (Figure 1). In addition, the general growth path has been erratic. During the decade of the 70’s, the country grew at an average annual rate of 6.3%, 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 mid-70s). In the 80’s, growth averaged 2.3%, while the 90’s experienced a higher rate (5.5%). After year 2000, economic growth has been slower (4.8% on average).

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

Source: Own elaboration with data from the Central Bank of Costa Rica

Taking into account the above evidence, a question that arises is: How do economies grow? The literature indicates two main sources of growth: factor accumulation and productivity growth (Total Factor Productivity, 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 factors 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 mid-80s), outstanding growth cases are mainly the result of productivity growth. In the case of Latin America, growth in the 1970-2000 period results mainly from factor accumulation (investment in physical and human capital). However, 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 a moderate performance in terms of productivity contribution to growth. Robles-Cordero and Rodriguez-Clare (2002) found that the Costa Rican economy showed average productivity growth rates of 1.6% between 1985 and 1990 (the period of major economic reforms and new PDPs implementation), 2.7% between 1990 and 1995, and 1.6% between 1995 and 2001.3

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

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2 In the case of Costa Rica, Rodríguez-Clare et al (2004) report a higher TFP contribution to growth in the 60s and 70s (during the import substitution and entrepreneurial state years) than in the trade openness and structural reforms period (1984-2000).

3 The authors arrived at this result by decomposing 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 conclusions in the same direction. 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).
few Latin American nations showing positive productivity growth relative to other developing countries for the 1995-2004 period.

On the other hand, 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, similar to Latin America’s performance (Figure 2). These results are very relevant, since, as explained in the next section, Costa Rica has been very active designing and implementing PDPs. The productivity performance could suggest a limited impact of those PDPs for productivity improvements and foster economic growth.

**Figure 2 Total Factor Productivity relative to USA**

![Figure 2 Total Factor Productivity relative to USA](image)

Source: Own elaboration 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). Therefore, this study analyzes the design of PDPs in order to assess to what extent these policies correctly addressed market failures.

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

2.2. A Brief History of PDPs in Costa Rica

The history of PDPs in Costa Rica has changed significantly in the last three decades. The country followed an inward-oriented economic strategy during the 60s, 70s, and part of the 80s, restricting the imports of goods in order to protect the local industries. 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 took part at the end of the 70s (second oil-shock, rise of 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 fully participated in the Central American Common Market (CACM) and ISIS, placing high tariffs on capital goods and manufactured goods imports, as well as “industrial contracts” that virtually guaranteed the profitability of the winners of those contracts. This

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5 This is known as the Import Substitution Industrialization Strategy (ISIS), promoted by the Economic Commission for Latin America and the Caribbean (ECLAC).
particular model, its costs and benefits, have been thoroughly discussed in the development literature.\textsuperscript{6}

Simultaneously, Costa Rica continued its agricultural exports activities, mainly bananas, coffee and sugar. It is worth noting that Costa Rica went well beyond the general characteristics of the ISIS and during the Daniel Oduber Administration (1974-78) 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 some point 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 corporations and could never achieve the size (production volumes) required to take advantage of economies of scale.

In theory, business 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 an 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 (60s and 70s) was credit rationing and direct (nominal) interest rate controls by the Central Bank, which controlled sector specific credit quotas and interest rates through the public banks, which at the time had a monopoly on checking accounts, savings deposits, and a virtual monopoly in credit supply 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.\textsuperscript{7} The government

\textsuperscript{6} 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.
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 PDPs combination matrix of IADB (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 60s and 70s, government interventions focused mainly on direct market interventions. Some of them of a horizontal nature, while many others vertical, favoring specific sectors and productive activities.

**Figure 3 Costa Rica: Sample of “Old” PDPs (Implemented in the 60s and 70s)**

<table>
<thead>
<tr>
<th>Horizontal</th>
<th>Vertical</th>
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<tbody>
<tr>
<td><strong>Public Input</strong></td>
<td><strong>Market Intervention</strong></td>
</tr>
<tr>
<td></td>
<td>• Import Substitution Industrialization Strategy (ISIS)</td>
</tr>
<tr>
<td></td>
<td>• Credit Quotas and Interest Rate Controls</td>
</tr>
<tr>
<td></td>
<td>• Agricultural Price Support Mechanism (Traditional Crops)</td>
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<tr>
<td></td>
<td>• Corporación Costarricense de Desarrollo CODESA (State-owned firms)</td>
</tr>
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</table>

Source: Own elaboration based on a framework by IADB (2008)

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7 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.
Unlike some other Latin American countries that tended to abandon PDPs in the 80’s (along the “lost decade”) in favor of market-based mechanisms, Costa Rica never did so. Instead, the country radically switched to other instruments, sectors, and the target markets to which the PDPs were oriented. 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 settings and other similar mechanisms used before the 1980-82 crises. The main changes experienced by the (old) PDPs described before were:

- 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, 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. Nowadays, rice is the only product subject to a price control system.
- A new system of incentives to promote non-traditional exporting activities 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 since the middle of the 80s. Since mid-90s, 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 made emphasis on 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 (for instance, 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. During the last decade, trade policy has been based on the pursuance of 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 for 2010, while the negotiations of 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 80s, was a key achievement. CINDE is a private organization dedicated to attract FDI and support the process of the new exports-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, among others, have been growing and attracting significant foreign investment.

While export promotion and FDI attraction are the most relevant policies developed in last years, other PDPs have been also implemented. For instance, PDPs targeting Small and Medium Enterprises (SMEs). During the Miguel Angel Rodríguez Administration (1998-2002), awareness of the need of 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 the high tech multinational companies (MNCs) and local firms (Costa Rica Provee).
- Programs that provided finance and credit for SMEs.
- Programs that provided technical assistance and worker’s 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 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 on year 2001. The objectives of SINETEC are, among others, to make an 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 author’s rights. In this way, some of the most important barriers to innovation could be
surpassed and, at the same time, a clear dimensioning of innovation efforts consistent with the economic environment and business demands might be pursued.

On a different field, “food security” and agricultural support programs regained relevance in 2008, mainly because of the growth of international agricultural commodities prices. The discussion has been principally promoted 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 70s and 80s), have increased their operations recently.

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 (like technical education) and market interventions. One of the most relevant PDP, as indicated before, is the promotion of non traditional exports.
2.3. Selected PDPs for Assessment

In this study, five Productive Development Policies (PDPs) are assessed. Figure 5 classifies them in each quadrant of the policy map. The selected PDPs are important for the purpose of this study since they are current policy priorities for the Costa Rican government. In some cases, significant amount of resources are allocated. Additionally, there is an ongoing debate in the policy arena and academia circles regarding their institutional characteristics and responsible agencies effectiveness. 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 have a wider impact and action scope (even over the whole economy).
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 like 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 PDPs was designed and implemented, and even justified.
3. Analytical Framework

3.1. Market Failures and Government Failures

The fundamental result 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 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).  

Many arguments in favor of an active government role in industrial policy design (PDPs 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

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8 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.
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).\(^9\)

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 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 depart policies from its 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 identification strategy elaboration 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).10

Since the 70s, 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 policymaker, 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.

Krueger (1990) suggests two types of government failures commonly present in developing countries during the 70s and 80s: Failures of commission, like 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, like roads and highways, increases the costs of productive activities).11 Corruption is also a by-product of

10 The government could also fail if, instead of aiming at correcting the real source of a market failure, intends to compensate the effects of that failure.

11 Costa Rica’s road infrastructure has deteriorated significantly during the last 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 a result from reduced public funding and underinvestment for road maintenance and modernization. The origins of these problems are diverse. Fiscal constraints, limited scope for productive infrastructure public investments promotion, lack of effective private concession mechanisms, regulatory and institutional obstacles, limited managerial capacity from key public actors, among others, are relevant.
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 its assessment should focus on what are the requirements to improve them and make them effectively work (Rodríguez-Clare, 2005).

The design and implementation of industrial policy should be based on a sound formal and well documented analysis, instead of 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 (in some degree) the economic inefficiency (“deadweight” loss) from the market failure? d) Is government policy creating any government failures? And e) is the institutional setting and responsible agencies functioning in the adequate way to achieve the intended goals?

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 occasions with unequal negotiation and politically influencing resources. Those actors interact in a variety of arenas, in the public, private or civil society circles. 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 correction actions should be developed from a broader perspective, taking into account the influence of several actors, their particular interests, and the final outcome of the policy-making 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 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 (market failure or government failure identification, as indicated in the previous section)

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 selected PDP. 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 bill proposals, discussions and hearings files at the Congress; and approved law, regulation and policy documents.
4. Export Diversification and FDI Attraction: Export Processing Zones (EPZs)

4.1. Origins, Evolution and Main Actors

The EPZs 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% for 8 or 12 years, and 50% for an additional 4 or 6 years. There are other incentives like the exemption from payment of all taxes and consular duties on imports, exemption from all municipal taxes and licenses for a term of ten years, and additional exemptions from payment of income taxes for those companies that after four years of operating under the EPZs regime make reinvestments in the country.

In December 1981 the Law of Export Processing Zones and Industrial Parks (Law 6695) creates the Export Processing Zones (EPZ) regime, as the first step to promote the exports of nontraditional products to third markets. The incentives granted to EPZs firms are:

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

Main supporters for Law 6695 were the Export Processing Zone Corporation (CZFE was a public-private organization created under CODESA), Congress and local government representatives, and civil society organizations from Puntarenas and Limón. In fact, the CZFE proposed a new text during the consultation process that was approved at the Congress. The CZFE obtained public enterprise status, and was responsible of planning, managing and operating the EPZs 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 geographical restriction for EPZs creation (Limón and Puntarenas). At that moment, it had not been possible to develop EPZs in those states, because of industrial infrastructure limitations. In addition, private developers of industrial parks made significant lobbying 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 turned into 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 in the reform. The changes suggested by this organization were included in the final version of the Law. On the other hand, the Ministry of Trade (COMEX), created at the end of the 80s, became another important supporter. In addition, local governments (municipalities) started to be aware of the potential positive impacts of foreign companies operation in EPZs for their local economy. Generally speaking, the government increased its interest on EPZs because of the positive outcomes obtained in the second half of the 80s. The Ministry of Finance, on the other hand, expressed its concern with the fiscal burden of EPZs incentives.

Private participation became more relevant, as well. In the case of industrial parks developers, they gained greater political influence. The Chamber of Commerce achieved the inclusion of commercial firms into EPZs incentives scheme. In addition, a key private non-profit organization created in 1982, CINDE (Costa Rican Investment Promotion Agency) started working with the promotion of FDI attraction and also supported EPZs development.\footnote{It is worth mentioning that CINDE, since its creation, has been the most important actor in attracting FDI to Costa Rica.} Interestingly, however, opposing interests rose 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 on September 1998, promoted by the Ministry of the Presidency, and justified by the growth experienced by the EPZs´ investments and exports, and the new type of FDI that was entering the country. The operations of INTEL started in year 1997. Afterwards, the government was interested on attracting more high-tech MNCs as well as back office and call centers.

The reform was approved by Law 7830. An important change was the increase of initial investment requirements for new applying companies. The main objective was to avoid a shift of national companies from the expiring export subsidies scheme to EPZs. Another important change was the granting of EPZs investments to companies operating outside from industrial parks (related to the experience with INTEL). This benefit was exclusive for companies with initial investments over US$2 million and granted only in exceptional cases. This was consistent with industrial park owners´ interests and related to export subsidies expiration.

In the above reform discussion process, CINDE and COMEX had significant influence on the final outcome (Table 1). New actors like AZOFRAS (EPZs Firms Association) and the Costa Rican Trade Promotion Office (PROCOMER) supported the reform actively. The Ministry of finance agreed the reform, due to the strengthening of customs control and accountability. Additionally, closer coordination with COMEX facilitated the incentives management and monitoring. Against supportive organizations, small political parties, particularly with leftist ideology, opposed the reforms and EPZs in general.

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13 The export subsidies (Certificados de Abono Tributario, CATs) were coming to end at that time.
14 AZOFRAS was created at the beginning of the 90s as a result of the growth of EPZs companies, which wanted to be organized as a group.
15 PROCOMER was the result of a fusion of the EPZs Corporation (CZFE) and CENPRO (Center for Exports Promotion), in 1998.
<table>
<thead>
<tr>
<th>Supporting Interests</th>
<th>Benefits from Supporting</th>
<th>Ability to Generate Political Action</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Main Objectives (Incentives)</td>
<td>Magnitude</td>
<td>Per Capita</td>
</tr>
<tr>
<td>COMEX</td>
<td>Competitive advantages to attract FDI</td>
<td>High</td>
<td>n.a.</td>
</tr>
<tr>
<td>PROCOMER</td>
<td>Competitive advantages to attract FDI</td>
<td>High</td>
<td>n.a.</td>
</tr>
<tr>
<td>CINDE</td>
<td>Competitive advantages to attract FDI</td>
<td>High</td>
<td>n.a.</td>
</tr>
<tr>
<td>AZOFRAS</td>
<td>Competitive advantages to attract FDI (Efficient administrative infrastructure and trade logistics)</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Customs Agency (Ministry of Finance)</td>
<td>Accountability of customs benefits for EPZs.</td>
<td>High</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opposing Interests</th>
<th>Benefits from Supporting</th>
<th>Ability to Generate Political Action</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chamber of Industries*</td>
<td>Benefits and incentives similar to those of EPZs. Non-discrimination (competitive disadvantage) vs. foreign companies.</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Small Political Parties**</td>
<td>Sound ideological and political positioning</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

n.a. = not applicable

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

** Particularly left-wing ideology parties

Source: Own elaboration with information obtained through interviews with key actors, Congress archives research and literature review, adapted from an analytical framework proposed by Baron (2003)
4.2. Institutional Setting

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

Figure 6 Institutional Setting of EPZs Policy

- COMEX: Policy Design and Reform
- Ministry of Finance: Policy Consultation

Policy Implementation
- PROCOMER
- CINDE
- Customs

Monitoring and Accountability
- PROCOMER

Consultation, Lobbying
- AZOFRAS
- Industrial Parks Developers
- Chamber of Industries
- Chamber of Exporters
- Chamber of Commerce
- Chamber of Small and Medium Businesses

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

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

The Costa Rican Foreign Trade Corporation (PROCOMER) is the implementing agency of EPZs law. It is also responsible for the administration and coordination of incentives contracts with EPZs operating firms, as well as new applicants. The corporation conducts accountability and control processes. However, it is not directly involved in foreign direct investment 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 business).

The Costa Rican Investment Promotion Agency (CINDE) is a private non-profit organization founded in 1982. The promotion of foreign direct investment (FDI) into the country is conducted by CINDE. The organization is responsible for FDI attraction in EPZs as well as non-EPZs foreign investment promotion. CINDE assists foreign investors in their site selection due diligence process (detailed information on the country and its advantages, and customized investment agendas organization), and manages customized field trips of and meetings with service providers, Government organizations, 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 on the policy consultation process. The EPZs Private Association (AZOFRAS) is one of the most important private groups, which represents EPZs companies and EPZs developers. It is
responsible for coordinating and interacting with public and private organizations related to FDI attraction. Business chambers play also a role on EPZs development, mainly through their participation in PROCOMER’s directive board.

4.3. The Case for Policy Intervention

The unilateral liberalization process that Costa Rica started in mid 80’s was not definitive, that is, 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. Moreover, 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 (EPZs) emerged in Costa Rica as a mechanism for promoting the export of non-traditional products through the attraction of Foreign Direct Investment (FDI), create new employment, improve the balance of payments and help create a diversified productive basis. In short, this PDP pursued greater stability for the economy in face of shifting terms of trade for its previously dominant exports (coffee, bananas, sugar and meat) and imports (manufactured final goods).

The EPZs regime can be seen as a new government effort to offset existing government failures, but not a market failure. The most appropriate approach should 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 depend 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 foreign trade and investments evolution, consistent with the EPZs experience 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-discovering" the country's productive potential is a main 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, something discussed in the next section.

On the other hand, the possible impact of EPZs on cluster development becomes relevant.16 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 the above 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.

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16 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.
The analysis of this PDP origin indicates that there was no sound argument to intervene, 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 80s). Moreover, in that case, the optimal policy to apply was the correction (elimination) of government failures originated from ISIS policies implemented during the 60s and 70s. In its origin, the EPZs creation was not a second-best policy, neither.

Notwithstanding, as EPZs evolved in time, new arguments related to the positive externalities arising from FDI could justify government intervention. Following Pack and Saggi (2006), some of the key issues to be considered by policymakers are: a) the identification of which MNCs generate spillovers and on what 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 benefit from those spillovers, under which specific conditions and competitiveness requirements. In this way, a better understanding of market failures and whether and how FDI create externalities on the economy will help the government to justify specific interventions and obtain support for policy reform.

4.4. Policy Outcomes and Conclusions

Foreign Direct Investment (FDI) attraction under EPZs development, particularly since the beginning of the 90s, has been very successful. Starting in the mid-1980s Costa Rica has seen increasing flows of FDI. Currently, FDI inflows represent 7.3% of GDP. Foreign EPZs firms’ investments account for 19% of total FDI. In addition, exports from EPZs account for 53% of total Costa Rican exports.17 After the second half of the 1990s the country has recorded the most important inflows of FDI, mainly related to high-tech and off-shoring services.

At the macro level, EPZs FDI has contributed with exports growth, investment, employment, technology transfer and foreign exchange earnings. Costa Rica has been

17 PROCOMER (2008).
successful in attracting high-tech FDI due to the cumulative results of past development policies (especially those related with 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).

And at the micro level, the country envisions FDI to generate positive spillovers through competition and the transfer of technological know how, 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 MNCs-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 with the attraction of FDI do not follow a coherent strategy, because they are not closely articulated. This situation could limit the efforts for attracting FDI capable of developing more and higher national linkages. Besides, the existence of EPZs might have reduced political pressures for additional reforms in key areas of the business climate, reducing the potential FDI inflows growth.

As a general conclusion, the EPZs regime has compensated 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 failures arguments, but 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 EPZs MNCs-branches are 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 what are the MNCs, sectors and productive activities that have the highest potential for externalities creation. That is, what are the clusters with stronger revealed comparative advantages and identify the main channels and drivers for knowledge spillovers.

Costa Rica has built an institutional framework that has contributed to position the country as one of the most successful nations 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 to CINDE’s activities exemplifies the lack of a development strategy in which the government assures that all the parts are complementing each other and moving forward in a coordinated way. Paus and Gallagher (2006) consider critical that CINDE is institutionally embedded in the context of a larger development strategy, with sufficient resources to comply its mission.

It is worth mentioning that CINDE’s activities are focused on FDI attraction and specific business climate improvements (bilingual education), and less on other key tasks like company monitoring and post-establishment services for MNCs. Government agencies are not addressing completely these services, neither. In order to move faster with the business climate improvement, Monge-González and Hewitt (2008) propose the creation of a national council on innovation, competitiveness and growth policy (NCICG) that must be lead by the President. The experience of successful countries designing and implementing PDPs indicate that the highest political support is required in order to advance with key policy reforms (CEPAL, 2008).

4.5. Recommendations for PDP Improvement

The main recommendation for policy improvements on EPZs development are:

1. PROCOMER and CINDE should strengthen company monitoring and post-establishment services.
2. Due to WTO regulations, an adjustment of the EPZs 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 demand a sound institutional setting.

4. In this regard, the creation of a national council on innovation, competitiveness and growth policy (NCICG) is required. In addition, inter-agency coordination with medium management representatives from CINDE and government agencies (like PROCOMER, COMEX, and MICIT) is necessary to identify and prioritize the most important actions to enhance competitiveness.

5. Productive linkages development should be a central objective of EPZs promotion. The estimation and monitoring of MNCs´ linkages with local firms should be improved.

6. EPZs development and cluster strengthening policies should be integrated taking into account the comparative advantages of productive sectors.

7. The country should move to the consolidation of 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 80s, the promotion of productive linkages has been subject of public interest, due to the weak vertical integration of the Costa Rican industry.\(^\text{18}\) This situation was a result of the inward looking strategy of development based on imports substitution (ISIS) during the 60s and 70s, which promoted the manufacture of final goods, against the production of raw materials and intermediate goods.

The first efforts to develop local suppliers were initiated by the private sector (multinational companies, MNCs). In fact, 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 mid-90s. This project was part of the firm’s business strategy at the country.

In year 1999, the Supplier Development Project for High-Technology Multinational Companies was created. This program was supported by the IADB and managed by FUNCENAT.\(^\text{19}\) 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, afterwards, to export to foreign markets.\(^\text{20}\)

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 at a consolidated and well funded organization

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\(^{18}\) See File 7870 of the Export Processing Zones and Industrial Parks Law (Law 6695 from 1981).

\(^{19}\) 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.

\(^{20}\) MNCs and SMEs were also part of the Directive Committee.
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).

Costa Rica Provee turned into a more MNCs demand driven program, identifying the main requirements of inputs and raw materials from multinational companies, and then matchmaking the MNCs demand with local suppliers.21 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 EPZs Law related to linkages have taken place (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% to 50% 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. Besides, machinery and equipment were allowed to move outside EPZs (so that local suppliers could integrate them in 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 of the design and implementation process of this PDP. A moderate influence (effective political action) from most participants can be noticed. Only PROCOMER and the Minister of Foreign Trade (COMEX) had a high influence on the final design of the PDP, due to the amount of available resources, its capacity to exert political influence and the expected benefits (related to the fulfillment of their institutional mandate). Only one opposing organization was identified. Interestingly, not against the objectives of the PDP, but its normative. The Customs Agency criticized the flexibility of

21 Almost all interviewed companies made this observation.
customs procedures to facilitate businesses between SMEs and EPZs 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 interest forces 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 supplying companies, possible reforms to improve the present structure and implementation of this PDP would probably face little opposition.
Table 2 Distributive Politics Spreadsheet: Program to Strengthen Backward Linkages between MNCs and Local Industry

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

n.a. = not applicable

Source: Own elaboration with information obtained through interviews with key actors, Congress archives research and literature review, adapted from an analytical framework proposed by Baron (2003)
5.2. Institutional Setting

Public and private organizations have an influence on CR Provee. Although this PDP is not a law by itself, it depends on some regulations from the EPZs law. The institutional setting is described in Figure 7

PROCOMER is responsible for the design and reform of CR Provee, which depends on the Ministry of Trade’s actions regarding EPZs regulations. The implementation, monitoring and accountability of CR Provee are under PROCOMER’s management, as well. On the other hand, an important group of private and public organizations are related to CR Provee, with different interests to promote productive linkages between MNCs and local suppliers. Customs administration has been working with mechanisms to facilitate controls for trade between local companies and EPZs foreign firms.
5.3. The Case for Policy Intervention

The literature indicates that Foreign Direct Investment impact on host country economic development depends on the 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, the success in attracting high-tech FDI does not automatically lead to the generation of knowledge spillovers related to backward linkages. They depend on MNCs’ interest in sourcing inputs in the host country and the domestic linkage capability of that country. Therefore, the case of backward linkages 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. Second, corporate policies. In many cases, CEOs of starting MNC-branches do not necessarily pursue linkages with local firms. In the beginning, facilities construction and operations start are central priorities. Regarding procurement policy, local procurement managers frequently look for global suppliers instead of local firms for security reasons (productive process robustness). Besides, fresh-out local procurement managers usually lack knowledge on local capabilities (high costs associated with local suppliers’ identification). 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 capabilities (entrepreneurship, technology, production scale, manageable risk and finance). Even when local firms are competitive to become MNCs suppliers, host country absorption capability depends on the systemic learning infrastructure, institutions and government policies, as well (Paus and Gallagher, 2008).

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22 If required local skills are available.
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 could 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 kind of costs. Some of them could be covered by MNCs interested on 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.

Based on the previous points, a national plan to promote productive linkages between MNCs and local firms can 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 a PDP implementation.

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 identifying the actual demand of inputs and intermediate goods by MNCs, and search possible suppliers (business match making). This is an important task, notwithstanding. But its full potential for business development (productivity improvement) can not be realized unless other key issues like the limited access to technology, finance, and lack of entrepreneurship are addressed by a national linkage creation policy. In short, Costa Rica Provee is a PDP that does not address the market failures optimally.

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 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) the policies to address these obstacles require clear rules of accountability, reciprocity, and enforcement.

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

Despite the positive results of Costa Rica Provee, the magnitude of its operations is very limited with respect to the size of the Costa Rican economy and MCNs´ purchases. For instance, total local purchases by MNCs in Costa Rica for year 2007 accounts for US$591.1 millions, while those promoted by CRP in the same year account for only US$4.4 million, that is, less than 1%.

The interviews to different key actors related to this PDP reveal that Costa Rica Provee makes a good work as a business match maker, with confidence both from SMEs and MNCs. Nevertheless, the contribution of this program for the development of “linkages” is very limited. Costa Rican SMEs face productive bottlenecks that demand an integrated support to upgrade technology, finance, quality, human resources, and management practices, among others. In fact, multinational companies argue that an important obstacle for SMEs is their business culture (BID, 2005).

In short, more than identifying suppliers, the target of a sound linkage creation program should be the development of local suppliers. That is, CRP falls short to contribute to correct market failures. This point is validated by a recent study of Beltrán and Gutiérrez (2008), which found several entrepreneurial obstacles from local firms. In addition, most local suppliers interviewed for the present study indicate that the main obstacle to increase their sales to MNCs is the lack of financing, as well as limitations associated to certifications and human resource training. In all these cases, what is clear is the existence of a coordination failure among SMEs supporting agencies (CRP, PROPYME, Public Banks, and training institutions, among others).
The work of CR Provee is important, but limited, as far as SMEs do not advance through the value chain and become global suppliers. A linkage creation policy requires not only to correct information failures, but also to address coordination failures that limit the development of clusters, market failures related to the access to technology and financing by SMEs, and government failures in creating sound business climate conditions for those companies.

There are various organizations in Costa Rica working with SMEs support programs. However, these programs are disarticulated and not demand oriented. A clear example is the lack of coordination between Costa Rica Provee and PROPYME 23 (a matching grant system to promote R&D and other innovation activities), in order to support technological upgrading of local suppliers. Given this situation, this type of SMEs policies have little impacts. 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 in attracting growing FDI amounts (like 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

From the above discussion, the following recommendations emerge:

- It is necessary to make an impact evaluation of CRP and assess the extent to which the program’s resources are sufficient to undertake its mission and for future up scaling.
- Costa Rica Provee should establish closer coordination with agencies that manage SMEs 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 MNCs and SMEs labor skills requirements).

23 Based on a comparison between CRP and PROPYME beneficiaries, and interviews with local suppliers.
• A national strategy of linkage creation (integrated with FDI attraction efforts) is necessary, to move from the current “match maker” approach to an integrated global support model.

• In order to increase access to financing by domestic suppliers, CRP and other SMEs supporting agencies should coordinate efforts with public and private banks, and government organizations like CONICIT.

• It is necessary to complete unilateral trade liberalization in order to eliminate any anti-export biases that prevent local companies of 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 the investment in research and development (R&D) of small and medium enterprises (SMEs) originated almost two decades ago, with the Law for the Promotion of the Scientific and Technological Development (Law 7169) in 1990, which created the Ministry of Science and Technology of Costa Rica (MICIT). A decade later, in year 2000, a new mechanism called 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 capacities and competitiveness. The FRC was developed by MICIT, CONICIT and the Office of the Presidency (with the so called Programa Impulso).

The FRC was modified in year 2002 by the Law 8262 (SMEs 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 contribute to economic development.24

The Economic Affairs Commission at 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.

24 It is worth mentioning that this program is based on the principle of a demand driven support. Therefore, it does not target specific sectors.
With the creation of PROPYME, an inter-agency agreement was established, with the objective of strengthening coordination among key public organizations responsible for SMEs 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; are allocated annually by the Incentives Commission at the Ministry of Science and Technology (MICIT), and managed by the National Council for Scientific and Technological Research (CONICIT). 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. Specifically, 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 firm capacity, the management capacity of the tender, and the probability that the firm’s requirement can be effectively attended by the project proposal. Second, qualifying projects compete for a venture with a certified Research Unit (RU). 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 a RU is chosen to undertake a project, PROPYME may finance as much as 80% of its total cost with a non-reimbursable grant, while the SME has to finance the rest of project. The main idea is to induce 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

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25 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).

26 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).
externalities). It is worth mentioning that PROPYME can only support SMEs with more than six months of operation, thus excluding the possibility of financing start-up companies.

The DPS for PROPYME indicates that this PDP was backed up 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 influenced directly the final outcome of the Law, since their observations and suggestions were embraced by the Economic Affairs Commission at the Congress. At the end, PROPYME fund is managed by CONICIT, while MICIT makes the selection of projects and directs the resource allocation.

The Ministry of Industry (MEIC) was particularly influential, as well. Political negotiations with this Ministry helped to approve a new bill substitute document consistent with the arguments of MICIT and CONICIT. In addition, the Chamber of Industry (CICR) had an active participation 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. It is until year 2008, with the creation of the Development Banking System (Law 8634), that PROPYME obtains additional funding to support companies from all 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)

<table>
<thead>
<tr>
<th>Supporting Interests</th>
<th>Benefits from Supporting Main Objectives (Incentives)</th>
<th>Ability to Generate Political Action</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Magnitude</td>
<td>Per Capita</td>
<td>Number</td>
</tr>
<tr>
<td>MICIT</td>
<td>Availability of instruments to finance R&amp;D</td>
<td>High</td>
<td>n.a.</td>
</tr>
<tr>
<td>CONICIT</td>
<td>Availability of instruments to finance R&amp;D</td>
<td>High</td>
<td>n.a.</td>
</tr>
<tr>
<td>SMEs</td>
<td>Access to financial mechanisms to invest in R&amp;D</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Private Research Centers</td>
<td>New opportunities for research investments and business growth</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Research Boards at Public Universities</td>
<td>Market of science and technology services for the private sector</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Chamber of Industries</td>
<td>Availability of instruments to finance R&amp;D</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>MEIC</td>
<td>Availability of instruments to finance R&amp;D</td>
<td>High</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

n.a. = not applicable

Source: Own elaboration with information obtained through interviews with key actors, Congress 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 the monitoring and accountability actions. At the same time, the Ministry of the Economy serves as a consultation body. Moreover, MEIC elaborated the general framework of this PDP. CONICIT is responsible for monitoring and accountability issues, as well.

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 on the regulatory mechanisms. The current institutional setting is described in Figure 8.

6.3. The Case for Policy Intervention

When a firm invests in research and development (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 investment 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 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 a 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 [in the country] (Martin and Scott, 1998, p. 5). 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 incentive 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 (WTO) 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 countries governments because of the costs that they involve. Moreover, 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. 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 above 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 technological

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27 This point has been reinforced by Baumol (2002), who claims that firms use innovation as their main approach to competing in markets.
advance 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 small and medium enterprises (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 advance. Without a coordinated government intervention, investment from SMEs on innovation or technology adoption might not occur at all.

Between year 2000 and 2008, PROPYME has supported innovation activities carried out by 115 SMEs. The 115 projects represent a total investment of US$2.5 million for 2000-2008, with an average of US$25,000 per project. It is worth mentioning that some firms do not make an effective use of all assigned resources. For such reason, total disbursements account for 84% of total approved funds. The highest numbers of projects are related to technological development, while any patent related projects have been financed. Similar numbers of projects have been financed in other categories, particularly in 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 from SMEs. Notwithstanding the availability of funds, the burdensome and complicated administrative process, the limited knowledge of the program by potential beneficiaries, the limited coordination with other SMEs supporting agencies, plus design problems (like the exclusion of start-ups), create significant obstacles to achieve the program’s goals.

\[28\] PROPYME started in year 2003, but the former FC program (original idea) started in 2000.
For instance, the majority of managers from interviewed Costa Rican companies do not know about the Program existence. Therefore, these firms ignore the PROPYME financing instruments. Other companies indicate that they know about the program indirectly, because of information obtained from the Chamber of Industries. However, after knowing what PROPYME does, the companies express their interest to apply, and stress the importance of this kind of policies to overcome technological and human capital weaknesses.29

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 procedures cycle for the selection and disbursements to the beneficiary (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 feedback channels between public and private organizations involved with PROPYME. In addition, the program is not oriented towards creating synergies with clusters strengthening or other vertical PDPs. The program only facilitates the financing and matching of RU and SMEs projects. But the work is not integrated with other firms with a high potential to generate positive externalities through knowledge and technology transfers, like MNCs. There are no inter-organizational coordinated efforts, as well (with other programs like CRP, for instance).

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 outcomes of a failure of omission. The main result is the underutilization of the funds and underinvestment in R&D and other innovation projects. Thus, the policy is not contributing to correct market failures.

29 Six out of nine interviewed companies that make business with MNCs do not know even that PROPYME exists. On the other hand, 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 MNCs’ local suppliers.
One of the main critics to PROPYME from interviewed companies is that 100% of required resources to invest are not granted. This situation can generate difficulties like delays in the research process or failure with the initial objectives of the project. Another problem arises from the double application mechanisms, since most SMEs and RUs do not know each other.

In spite of clear limitations, interviewed companies indicate that PROPYME helped them to be more competitive. One of the main benefits pointed out is the improvement of the level of productivity of the firms, especially from human resource training, and increasing sales of its products. The majority of 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 clusters 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, EPZs development, backward linkages promotion and R&D investments should be key components of a national strategy for productivity improvements.

From the analysis, the following recommendations proceed:

- There is a need to conduct a comprehensive impact evaluation, both from the agency and beneficiaries’ performance, 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, need to know 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 is required, at least once a month, in order to increase the number of applications and accelerate the project selection.
• Strong marketing and informative efforts from MICIT and CONICT are needed to increase general knowledge about the program among potential applicant companies.
• Integrating PROPYME with other PDPs like EPZs development and CRP should be a priority for policy makers.
• A grants scale could be developed in order to incentive 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 by PROPYME regulations. Intellectual property rights from project participants must 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 place, 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 80s. At that moment, the need to promote new productive activities to help increase foreign exchange earnings made policy makers focus on international tourism services promotion.

In the 5th of July, 1985, the Costa Rican Congress approved the Law of Tourism Development Incentives (Law 6990), supported by the need to generate foreign exchange and contribute to the economic recovery of the country. In its two first articles, tourism is declared as an activity of public interest, with the objective of generating an “accelerated and rational” development of this industry.

Six tourism activities were beneficiaries of the 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:

- The contribution to the Balance of Payments
- The creation of direct and indirect employment
- The use of national raw materials and inputs
- The benefits created in other productive sectors
- The effects on regional development
- The modernization and diversification of the tourism supply of the country
- The growth of the internal and external demand for tourism
Those incentives were effective until year 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.\footnote{This law eliminated or changed fiscal exemptions included in the whole regulatory framework of the country, with exemptions clearly stated.} 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\% of their capital on 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 Rentals. The ICT had a determining influence in 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 twelve years for the incentives.\footnote{Consistent with the incentives period granted to exporters of non traditional exports to third markets (outside Central America) at that moment.} Regarding the car rental companies, they offered a general support in favor of the law, with a particular interest on tax exemptions for national tourism rentals. Finally, the Central Bank was in favor of allowing hotels to manage their own foreign exchange (Table 4).
Table 4 Distributive Politics Spreadsheet: Law of Tourism Development Incentives (Law 6990, 1985)

<table>
<thead>
<tr>
<th>Supporting Interests</th>
<th>Benefits from Supporting</th>
<th>Ability to Generate Political Action</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costa Rican Tourism Institute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To declare the tourism industry of public interest and include restaurants (gastronomical activity) in the beneficiary group of tourism incentives.</td>
<td>High</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Ministry of Finance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To have (next to ICT) the discretion in granting the incentives. To establish a maximum period of tourism incentives.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>Low</td>
</tr>
<tr>
<td>Central Bank of Costa Rica</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To allow the hotels manage their own foreign exchange.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>Low</td>
</tr>
<tr>
<td>Costa Rican Association of Car Rentals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To extend the benefits of car renting to national tourists.</td>
<td>High</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>

n.a. = not applicable

Source: Own elaboration with information obtained through interviews with key actors, Congress 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 in the country. The current central goal is the promotion of sustainable tourism development, by maintaining a balance between the economic and social outcomes, environmental protection, culture, and country assets. The current institutional setting is described in Figure 9. ICT is also responsible for the implementation and monitoring of tourism policy. Other public organizations share responsibilities on this regard.

The Ministry of the Environment (MINAET), for instance, follows implementation and monitoring issues, related to the enforcement of national environmental laws, particularly those of National Protected Areas and other natural assets of the country. It also controls for the environmental performance of tourism companies. Local governments are responsible for policy implementation as it relates to territorial planning, infrastructure development and public services in tourism sites. The Comptroller General, on the other hand, has an accountability mandate to control the policy mechanism, especially tourism incentives. Private sector organizations like the National Chamber of Tourism and other company and professionals associations play a consulting and lobbying role on policy design and implementation.

**Figure 9 Institutional Setting of Sustainable Tourism Promotion**

![Institutional Setting Diagram]

**Policy Implementation**
- ICT
- MINAET
- Local Governments

**Monitoring and Accountability**
- ICT
- MINAET
- CGR

**Consultation, Lobbying**
- CANATUR
- Business Associations
- Tourism Professional Associations
7.3. The Case for Policy Intervention

Tourism in Costa Rica has been target of important incentives and direct government support actions. In the 80s, the main support policy 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 the fiscal incentives, the government tried to correct those failures and reach economies of scope, integrating different parts of the value chain.

During the 90s, most fiscal incentives were eliminated. The government started 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 tourist 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 like air pollution, hazardous wastes leaking into water reservoirs, or deforestation (soil erosion)
create higher social 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 resources degradation. In addition, environmental policy actions can target positive externalities compensation with incentives (i.e. subsidies) in order to correct the privately-determined market prices to 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 the 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. A 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 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 estimations, in year 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% of Gross Domestic Product (GDP), 13.1% of total employment (direct and indirect) and 17.1% 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 year 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 90s, some incentives were eliminated or adjusted because of new fiscal requirements. After that moment, the policies efforts have focused on the consolidation of a sustainable tourism sector, aligned with the most dynamic international markets segments, and based on the country’s natural capital.

There are three main success drivers in Costa Rica’s tourism sector: a) Value creation from the country’s image as a peaceful and democratic place, where nature conservation is institutionalized; b) A tourism industry with high local added value, with an important amount of small and medium-size businesses, development in rural areas, and the use of local labor force; and c) The country’s brand name in international markets (“No Artificial Ingredients”) being a differentiated product (Pratt and Rivera, 2004; Santamaria 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.\(^{32}\)

Notwithstanding the positive policy outcomes, in recent years, there is a dual approach for tourism development, not consistent with the green country brand and sustainable development objectives. Generally speaking, Costa Rica has been a leading nation regarding *green* agenda environmental actions (biodiversity conservation, protected areas creation, environmental services promotion).

However, in spite of recent advances, significant problems related to the so-called *brown* agenda (inadequate water, sanitation, drainage and solid wastes disposal and recycling services, poor urban and industrial waste management, air pollution)\(^{33}\) 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 the tourist expectations from a nature rich destination, and therefore erode the country’s competitive advantages.

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\(^{32}\) 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.

\(^{33}\) 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).
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 on protected areas and national parks are low. Both public and private resources allocated to protection of this key natural asset are 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% of national territory, including wildlife refugees, buffer zones and protected areas and national parks. It also includes 2,654 private reservations, with a significant burden from the government. A central problem is the limited budget for an effective management of public and private lands that integrate the SINAC.

In addition, a sound territorial planning model is absent. Significant land use changes and weak environmental management have caused serious damage on coastal areas, buffer zones close to protected areas and other important natural assets (Román, 2007; Programa Estado de la Nación, 2008). On this regard, tourism investments in massive resorts and hotels, integrated with residential projects, have impacted natural resources in several key spots of 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 for the industry’s development and the country’s sustainable development.

There is a lack of a sound long term planning program, even for basic issues like public property concessions and infrastructure building. For instance, in the case of the Golfo de Papagayo Tourism Project (GPTP), one of the biggest massive tourism business concepts (started in year 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).  

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-sectional topics like 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 land use management for tourism projects. According to CGR (2006), only 18% of municipalities have adequate and updated territorial management plans. Most local governments in key tourism natural spots do not have the required capacities to make an 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 tendencies 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 investments, create employment, and increase revenues, while ensuring environmental and social sustainability.

The following recommendations are intended to contribute to tourism PDPs improvements:

- Increase public and private investment in those assets most critical for tourism attraction to bring them up to world-class levels. Natural attractions (especially national

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34 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.
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 geographical 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 done.

- Cruise ship and other massive tourism segments must be clearly dimensioned and carefully planned, in order to take advantage of its significant growth and potential, but with a clear understanding and effective management of its environmental risks. The competitive position of the country in the environment 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 make a decision 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 the optimal. In addition, environmental regulations enforcement is still limited. More efforts are required to create a sound institutional framework.
• There is a need to conduct periodical evaluations and impact analysis of the 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

On 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 of 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. In this way, rice producers and millers argued that Costa Rica should keep its tariff and non-tariff protection for rice imports. Thus, both objectives of rice self-sufficiency and national producers support would be achieved.

The Rice Corporation (CONARROZ) has its origins in the former Rice Office (Oficina del Arroz), created by Law 7014 in year 1985. This organization was conceived with the objective to establish a corporate relations scheme between producers and processors of rice, to guarantee a rational and equitable participation of both actors in the industry, consistent with the “interests” of the most important food product for national consumption. The Rice Office regulated the whole industry. It managed production and inventories, import quotas, rice exports and imports, and guaranteed total purchase of local production. Notwithstanding, imports of rice were open to third parties.35

In 1999, the rice producers proposed a group of improvements to the Rice Office law, in order to fulfill the new needs of producers, millers and consumers. The proposal had a systemic approach, aiming at a regional decentralization and greater participation of the producers in the decision making of industry policies. In addition, the proposal asked for a

35 These rights changed after 1994, when the country ratified the Uruguay Round (Law 7473, Implementation of the UR Agreements).
change of its legal status, from a government organization to a public non-governmental body. On June 10, 1999, the bill proposal for the creation of CONARROZ was submitted to Congress. The objective was to create a corporate organization similar to other agricultural organizations of the country. On May 23, 2002, CONARROZ was created (Law 8285), with a public non-governmental legal status and own equity.

It is important to indicate that 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.

The debate for the creation of CONARROZ took more than two years. The original bill project was presented by a congressman of Liberación Nacional party (PLN), then the government opposition party. 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 Movimiento Libertario party (PML), and the Ministry of Foreign Trade (COMEX).

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

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36 Congress files, Nº 13628.
37 Several agricultural industries have a public non-governmental corporate model that regulates the whole productive activity. For instance, LAICA (sugar cane), CORBANA (bananas), ICAFE (coffee), and CORFOGA (cattle).
38 Tariffs on rice are 35% for milled rice and 20% for paddy rice. A combination of World Trade Organization (WTO) safeguards (AoA, Art. 5 and GATT, Art. 19) has raised import tariffs to 71% (Polo-Cheva et al, 2006).
39 The former congressman is currently the rice producers’ representative at the board of CONARROZ.
40 COPROCOM has been in favor of rice imports 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 been opposed to all agricultural corporations’ market controls.
The stronger 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 the free rice imports and their participation in the regulation of producer prices. Other actors like 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 them. Nevertheless, their influence in general was limited. Rice producers and millers gained strong political support at the Congress, particularly from PLN.

Nowadays, two bill proposals by Movimiento Libertario party could change the present legal figure of CONARROZ. The first bill intends to allocate part of the Corporation’s rents obtained through speculation with imports, to fund public schools food counters. The second bill is proposing the elimination of import tariffs on all food consumption goods, including rice.

Recently (November 2008), the Constitutional Courts (Sala Cuarta) rejected the assertion of constitutional inconsistencies in CONARROZ’s law, claimed by the National Association of Free Consumers (since year 2003). The main arguments of the Association were consumer’s right violation and the creation of a private monopoly, by law. Still, the Courts ordered the inclusion of one consumer rights associations´ representative in CONARROZ’s board of directors.\textsuperscript{41}

\textsuperscript{41} The board of CONARROZ consists of twelve representatives (5 from producers, five from millers, and 2 from the Government, from MAG and MEIC). CONARROZ is currently chaired by a representative from rice millers. Between 2002 and 2006 (Pacheco Administration), the president was a representative from rice producers.
<table>
<thead>
<tr>
<th>Supporting Interests</th>
<th>Benefits from Supporting</th>
<th>Ability to Generate Political Action</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Main Objectives (Incentives)</td>
<td>Number</td>
<td>Resources</td>
</tr>
<tr>
<td>National Production Council (CNP)</td>
<td>To keep its role and responsibilities in the organization of the rice sector.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>National Office of Seeds (part of MAG)</td>
<td>To continue the coordination of policies and programs for the rice sector.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Ministry of Agriculture (MAG)</td>
<td>To continue its mandate of supporting the development of the agricultural sector of the country.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>National Association of Rice Millers (ANINSA)</td>
<td>Control over the imports of rice.</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>National Chamber of Rice Producers</td>
<td>Tariff protection from rice imports. Closer participation in rice policy design, particularly on price regulation.</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Ministry of the Economy</td>
<td>To maintain its discretion on rice chain prices regulation and the approval of rice imports for national consumption.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Opposing Interests</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice Office</td>
<td>To keep its participation in the regulation of prices, imports and exports, quality and marketing of rice.</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Ministry of Foreign Trade (COMEX)</td>
<td>The use of a rice import mechanism that guarantees the</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Organization</td>
<td>Goal</td>
<td>Transparency</td>
<td>Open Access</td>
</tr>
<tr>
<td>--------------------------------------</td>
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</tr>
<tr>
<td>National Federation of Consumers Associations (FENASCO)</td>
<td>To protect consumers from monopolistic practices and higher rice prices.</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Commission for the Promotion of Competition (COPROCOM)</td>
<td>To avoid monopolistic practices and price regulations that affect consumers.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Movimiento Libertario Party</td>
<td>To promote free competition in the rice market.</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

n.a. = not applicable

Source: Own elaboration with information obtained through interviews with key actors, Congress 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 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 group of citizens to pursue a social goal, could be justified, as far 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, pests tolerance, nutritional value), appear as the coherent incentives to achieve higher farm productivity, sufficient production and lower prices for consumers in the long run.

If food price stability for consumers is a policy goal (particularly for poorer households), trade protectionism is certainly 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 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 groups actions (large farmers) that seek specific rents, and do not benefit original or expected beneficiaries (small farmers and poor households).42

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

- 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.*

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43“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).

44 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 from 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**

**Policy Implementation**
- MEIC
- CONARROZ
  - MAG
  - CNP
  - ANINSA
  - CANAPA

**Monitoring and Accountability**
- MEIC
- CGR

**Consultation, Lobbying**
- COPROCOM
- FENASCO
- Consumer Protection Associations
- ANINSA
- CANAPA

8.4. Policy Outcomes and Conclusions

Generally speaking, the agricultural sector in Costa Rica is a dual one. On 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 side, traditional agriculture saw its productive support measures significantly reduced. The remaining most relevant policy instrument for traditional agriculture has been import tariffs protection, on so called “sensitive” agricultural imports like rice, beans, poultry, sugar and dairy...
products.\textsuperscript{45} 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 proteins (22\% of total calorie and 16\% of protein intake), and accounts for 8\% 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’s and South Korea’s levels (this implies and 8\% of total basic food basket cost).

At the same time, rice has been one of the most supported commodities. The support measures for rice production in Costa Rica have been estimated using the OECD’s Producer Support Estimate (PSE) methodology.\textsuperscript{46} Producer rice support in Costa Rica (45\%) is greater than in the US (31\%) and the EU (32\%) and, excluding Japan and South Korea, close to OECD average (Todd et al, 2004; OECD, 2006).

Rice is also one of the most protected commodities from international competition in Costa Rica. Although original tariffs were 35\% for milled rice and 20\% for paddy rice, due to the combination of various World Trade Organization (WTO) safeguards (AoA Art 5. and GATT art. 19) they raised to 71\%. 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.\textsuperscript{47} Stewart (2007) estimated the social

\textsuperscript{45} According to CGR (2004b), rice is a sensitive product because of its relevance for national nutrition, the importance for poor household consumption, and the market concentration in a few companies.

\textsuperscript{46} PSE include market price supports, payments based on output, input subsidies, fixed capital formation, on-farm services, and other non-production supports (OECD, 2006).

\textsuperscript{47} Condo et al (2005).
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 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% 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% of the income of the poorest 20% families in the country.

From another perspective, Petrecolla (2006) has found that from 1995 to 2005, Costa Rican consumers have transferred US$396 millions to rice producers. The impact of this transfer on the poorest households represents between 7% and 8% of their per capita income, which contrasts with the burden on the richest households (0,4% to 0,6%).

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 year 2000. At the same time, productivity did not increase (has been around 4 tons per hectare). 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 like the United States, Costa Rica has been losing competitiveness for more than a decade, while other countries have increased productivity significantly.

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48 This tendency started many years ago, when traditional crops lands were shifted to non traditional export crops or other productive activities with higher returns.
49 Own estimations with data from MercaNET-CNP.
50 Costa Rica imports, with some exceptions, all rice from the US market.
At the same time, rice imports have been growing, which is a logical result from lower international prices. In order to import rice, after year 2002 the Government lowered the tariffs to 0% and gave monopolistic import rights to the CONARROZ. Since then, this Corporation has been importing rice through this mechanism and cashing in monopolistic rents. For instance, in years 2005-2006, 60% of total supply was imported.

CONARROZ sells the imported rice to the mills as if they had paid the whole tariff. The rent involved (US$6.7 millions in year 2004) is transferred to producers which in most cases are millers at the same time. The rent is then assigned by quantity produced. As a result, 33 producers received 50% of the import rents, while 773 producers received just 13% (Polo-Cheva et al, 2006). A report by the Comptroller General published in year 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 years 2007-2008, due to the exponential growth of international rice prices (a “counterfactual” situation not present before), all the limitations from the current policy were accentuated. Certainly, in year 2008 national production has increased, mainly 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 strong price fluctuations. In next years the final assessment will come, depending on the movement of rice international prices.

Rice protectionism in Costa Rica is the result of successful tariff- and rent- seeking activities by well organized farmers, and the unclear and policy-misled 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, soil degradation control, among others), the main PDP
targeting rice producers and millers has been import protection (with tariff and non-tariff barriers) and price controls. Both instruments have been unsuccessful to improve productivity, have 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 case of rice production protection 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 “good intentions,” the PDPs to support one segment of the economy (the rice sector) have lead 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 farms productive strategy.  

The main beneficiaries of agricultural protectionism in Costa Rica have traditionally been medium and large farmers, and those whose main income source 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:

- To conduct an impact evaluation of CONARROZ, from an economic, social and environmental perspective.
- To eliminate tariff and non-tariff barriers to the imports of rice.

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51 More than 60% 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 nutrients depletion and intensive fertilizer have generated important environmental impacts (Arezzo, 2001; OET, 2005).
• To eliminate price regulations for rice.

• To enforce Law 8285 and effectively allocate CONARROZ’s resources into projects that help improve rice producer’s productivity.

• To 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 to producer’s performance and real business capacities.

• In the case of low-productivity rice farmers, policies to shift resources to alternative high income elasticity agricultural production activities should be promoted.

• To support temporary subsidies for poor households (consumers) with CONARROZ’s hedge funds, in periods when international prices grow steadily.
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 appears as a necessary condition for success. The main lessons learned from the present study are:

- 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, a clear argumentation of market failures by policymakers was not identified.
- In all cases, except for PROPYME program, government failures appear as a main real reason for policy intervention.
- Market failures are not being optimally addressed in any case. However, there is margin for institutional improvements that would contribute to the correction of such market failures (Table 6).
- The political economy analysis suggests the existence of interest groups supporting PDPs and its eventual reforms. In fact, strong opposition for status quo changes was identified only in the case of rice protection. Notwithstanding, a direct question arises, which is why PDPs 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 do 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.\textsuperscript{52}

The limited leadership at highest political level and a weak coordination among agencies and with other PDPs, might prevent required reforms to improve policy performance and outcomes.

### Table 6 Costa Rica: PDPs Assessment Summary

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

Source: Own elaboration

\textsuperscript{52} An impact evaluation system pursues 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 made emphasis on selected interventions, narrow sector policies and targeted instruments, instead of addressing global disadvantages for the business climate of the country. The improvement of key areas (like infrastructure, technology, business regulations, and market distortions) to enhance competitiveness and create the required conditions for productivity growth is a policy objective still on process, with positive outcomes but important limitations so far.

All PDPs analyzed are not addressing market failures optimally. Still, three of them (EPZs, CRP, and Sustainable Tourism) evidence positive policy outcomes. On the other hand, rice protectionism generates negative outcomes (Figure 11).

Figure 11 Costa Rica: PDPs and Policy Outcomes

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

It is worth mentioning that the design and implementation of industrial policy should be based on a sound formal and well documented analysis of market failures, instead of 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 amongst them. This situation naturally raises the question of whether better coordination might not be one of the key elements that would result in better PDPs performance. Given that coordination failures among main actors and other relevant PDPs exist, it is necessary to deeply study the main causes of this situation and make a comprehensive analysis of potential areas, actors and political support, for policy reform.

It would be important to keep in mind an umbrella approach in the case of those policies that could reinforce and create feedbacks 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 on this regard. The council should be lead 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 for a good policy level coordination. The NCICG should incorporate representatives from business sectors, the academia and civil society organizations.
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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

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<th>Company/Organization</th>
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