

## Industrial policies in Colombia

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on Industrial Policies in LAC

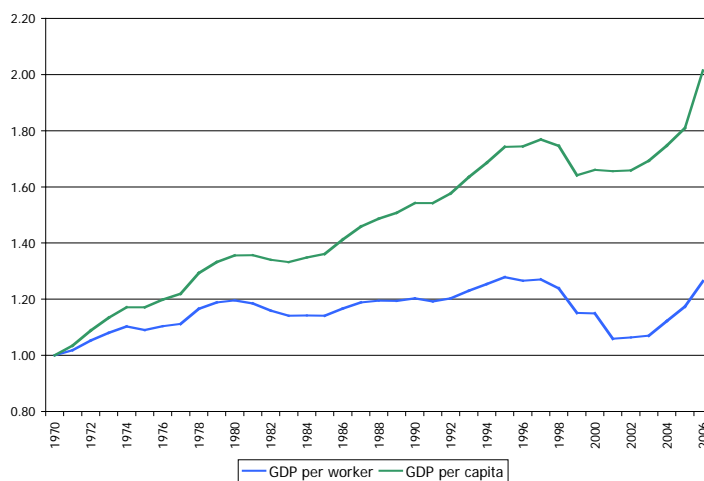
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## I. Introduction

Latin American and Caribbean countries underperformance relative to other developing countries in terms of productivity growth has reflected on moderate average economic growth of the region over the last 15 years. Colombia is no exception.

Figure 1 summarizes the history of economic growth in Colombia since 1970. GDP per capita grew at 3% per year on average in the 1970s and then at 2.2% between 1985 and 1997, but completely stagnated during the first half of the 1980s and decreased at a rate of -1.3% per year between 1997 and 2002. This poor performance has been partially compensated by positive growth rates since 2003, with average annual growth of GDP per capita reaching 3.6% between then and 2006. Still, the average growth rate of 1990-2006 is only 1.4% per year.

**Figure 1: Economic growth, 1970-2005 (1970=1)**



Source: DANE and GRECO (2002).

<sup>1</sup> Ana María Ricaurte and María Antonieta Borrero participated as Research Assistants.

The picture is even less appealing looking at the evolution of GDP per worker that had a peak in 1995 and then fell continuously until 2003. Despite recent recovery, GDP per worker had by the end of 2006 only reached its level of ten years earlier.

Underlying these results is stagnant productivity. Medina et al (2003) measure plant-level TFP between 1978 and 1999 and find aggregate manufacturing productivity largely stagnates and even declines in some of the larger industries during this period.

Since aggregate productivity is essentially the outcome of decisions undertaken by economic and social actors in response to economic policies and the way these are designed and implemented, the analysis of existing productive development policies (PDPs) may help understanding why social returns to investment are low and identifying possible lines of reform for both policies and institutional settings that may contribute to generate higher productivity.

We focus on the Colombian case. We show that in Colombia, use of sector-specific or region-specific PDPs as well as of more horizontal incentive policies has been extensive, despite the fiction maintained until recently of moderate government intervention. PDPs, with few exceptions, have been rarely associated in speech to market failures that must be addressed - this is particularly true for vertical PDPs targeting sectors or particular groups of firms-. More commonly, PDPs have been connected to economic reactivation, and ‘competitiveness’, a term that until recently dominated the policy-making jargon and has been used to justify a mixed set of policies tied up by loose rationality. There is also a set of PDPs that, in spirit of “second best” policies, address government failures deemed to be more difficult to correct by first best interventions.

Colombia has made progress, however, in structuring an institutional setting for PDP design sufficiently embedded within a network of linkages with private groups, to elicit information about the constraints and opportunities facing the private sector that require government intervention. This has been a process of trial and error that started with liberalization in the early 1990s and that, while still lacking in many dimensions, is starting to reflect in new courses of policy action. This institutional setting for PDP design coexists, as we discuss, with another track of policy-making, in which economic groups and other private actors obtain their desired policies by entering in transactions with bureaucrats and politicians. So the overall set of PDPs in place still lacks coherence and is not always guided by the policy requests of the private sector more widely defined.

This document is organized as follows. Chapter II contains an analysis of the evolution and characterization of the PDPs’ decision-making process in Colombia. Chapter III classifies PDPs in place according to their degree of transversality and to the channel through which they materialize, and discusses the rationales supporting them under the light of the best practices’ economic literature. It uses the records of the Domestic Agenda consultations and the module of Fedesarrollo’s Entrepreneurial Opinion Survey (EOS) prepared for the purpose of this study<sup>2</sup>, to complement this

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<sup>2</sup> Results from these sources are presented in Appendix 1.

analysis. Chapters IV and V present a more detailed analysis of a set of specific horizontal and vertical PDPs. Chapter VI presents our conclusions.

## **II. Evolution and characteristics of PDPs' implementation and institutional setting**

### **1. A paradigm shift after trade opening**

Colombia, like other Latin American countries, followed an import substitution industrialization (ISI) strategy from around 1950 up to 1991, though since 1967 the strategy should be rather characterized as a hybrid model that added an active export promotion strategy to the ISI. The main policy instruments for the execution of the early ISI strategy were trade protectionism, subsidized and directed credit and tax exemptions. A host of institutions and additional intervention instruments were used to protect and promote agricultural development. From 1967 onwards export subsidies, credit and marketing support, plus trade agreements to secure market access and an expanded ISI strategy through the Andean Community, were added to this list of instruments, while tax exemptions were faced out under a commitment to more neutral tax policies. Macro policies were also affected by the paradigm shift: Colombia adopted a “crawling peg”, instead of the previous commitments to fixed exchange rates, in order to avoid undervaluations that discriminated against exports and led to successive currency crises<sup>3</sup>. Subsidized and directed credit was significantly reduced through a comprehensive financial reform in 1974.

In 1991 the Gaviria administration drastically eliminated or reduced much of the trade protection institutions and instruments, opened the capital account, further reduced subsidized and directed credit and many other instruments of support and intervention (notably in agriculture) and initiated the privatization of public banks and utilities, in what was broadly defined as a new economic model of “apertura” (opening). The 1991 Constitutional reform endorsed this new view though it also kept a significant scope for Government intervention, considerably decentralized public finances and services provision (a process initiated in 1968), gave autonomy to the Central Bank and reinforced the role of Development Plans, which, proposed by Government in consultation with civil society, and approved by Congress, would constitute a “super” law that gave each Government legal instruments to execute its development strategy and its public investment plan –and would afterwards constrain its policies. The new Constitution also strengthened human and social rights protection as well as political participation channels.

As a consequence of this paradigm shift, the conceptual approach to PDPs, as well as its instruments and institutions, underwent a significant change. From the previous traditional “industrial policies”, geared to promote industrialization mostly through trade protectionism and direct support to “strategic” industries –though also keeping significant protection and support to agriculture–, a new concern with “competitiveness” and

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<sup>3</sup> See G. Perry (2008) for an analysis of the motivations and conceptual structure behind these policy changes.

institutions and processes to promote it through formal consultation and agreements with the private sector, began to emerge.

## **2. Zig-zags in the development of the Competitiveness and Productivity Agenda and Institutions from 1992 to 2006**

The Gaviria administration, through the Institute for Industrial Promotion, contracted seven sector level “competitiveness” studies<sup>4</sup> to an international firm, Monitor, composed by previous Porter associates. Though these studies did not lead to significant action, their concept of competitiveness based on “productive chains” influenced the policy and consultation process for more than a decade.

The Samper administration<sup>5</sup>, as soon as inaugurated in 1994, approved a set of policy guidelines on competitiveness<sup>6</sup>, instituted a National Council for Competitiveness and began a formal process of consultation and agreements with the private sector. The Council was a mixed body, with representatives from the private sector, labor, academia and Government, and responded directly to the President<sup>7</sup>. Advisory committees were set up in five transversal areas: firm management, productivity and quality; technology; human resources; infrastructure; regulatory and legal frameworks. The technical secretariat of each Committee was given to specialized Government agencies and private sector organizations. Under Council auspices, sector Competitiveness Agreements were negotiated in eleven “production chains”<sup>8</sup>. Some of these agreements were geared to restructuring needs vis a vis increased import competition, while others were oriented towards the development of export capabilities. Most of the Agreements contained concrete action plans, with Government commitments in areas of regulation, trade policies, financial support and infrastructure, and private sector commitments to certain productivity or export goals. However, there was no monitoring of implementation, neither evaluation of results, so it is difficult to ascertain their effects.

The Pastrana Administration (1998-2002) left the direction of competitiveness policies to the Commission for Foreign Trade and the Ministry of Foreign Trade. The Ministry launched a new policy of productivity and competitiveness, somewhat more focused on export sectors and possibilities, and developed an ambitious ten-year strategic plan for exports. It reorganized the previous advisory committees in ten transversal groups, corresponding to the ten competitiveness factors defined by the World Economic Forum, under the coordination of the Red Colombia Compite (RCC). The Ministry also organized public/private regional advisory competitiveness committees (CARCEs) in all Departments. Led by a technocratic Minister, the RCC and some of the CARCEs were very dynamic and generated a lot of enthusiasm in the private sector during the Pastrana

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<sup>4</sup> For Petrochemicals, flowers, leather, textiles, fruit juices, graphic arts and metal mechanics

<sup>5</sup> Samper had been Minister of Development and Trade in the Gaviria administration, in charge of the initial process of trade opening

<sup>6</sup> Council for Economic and Social Policy, CONPES, document # 2724

<sup>7</sup> The Economic Secretary of the President acted as coordinator

<sup>8</sup> Textiles and apparel; leather and leather products; siderurgy, metal mechanics and automobile industries; software; pulp, paper and graphic industries; aquiculture; maize, sorghum, cassava, poultry and pork; milk and milk derivatives; oleaginous, oils and fats; and rice. See Florez, Luis Bernardo and Misas, Gabriel (2008).

Government This organization survived but languished during the first Uribe Administration (2002-2006). Forty one sector competitiveness agreements were negotiated from 1998 to 2006, mostly during the Pastrana Government, 31 with national coverage and 10 regional, 29 on industrial and agricultural “production chains” and 12 in service sectors. These agreements had rather limited effect on Government policies, mostly due to the fact that the Trade Ministry was in no position to influence the policies and decisions of other ministries, often led by politically more powerful ministers with their own agenda. Other weaknesses of the process are discussed in the following section.

Even more, the first Uribe Administration established a parallel competing process in 2004, as a complement to the launching of negotiations of an FTA with the US: the so called “Domestic Agenda”<sup>9</sup>. This was a broad process of regional, sector and transversal consultations led by the National Planning Department (DNP), geared to identify priority policies and investments required to take advantage of export opportunities under the future FTA, as well as to mitigate the impact of increased import competition from the US. Chapter III uses the records of the Domestic agenda to discuss private sector policy demands.

### **3. Taking Stock: 2005 and 2006 assessments of previous experiences.**

In 2006 the Government requested an international consulting agency to provide a full assessment of competitiveness policies and processes, for the period 1998-2006. The study highlighted four major weaknesses in the overall institutional structure: the duplicity of efforts and consultation instances between the Red Colombia Compite and the Domestic Agenda since 2004, a low level of activity on transversal and process issues (several of the initial transversal committees were inactive by 2006), too informal links with key decision-making bodies (like CONPES and Congress) and the weak participation of entrepreneurs (private sector representation was mostly carried on through business association staff), specially of SMEs, and some key agencies<sup>10</sup>. It also concluded that the major process drawbacks were on weak execution, followed by weak monitoring of actions and commitments and evaluation of impact<sup>11</sup> (see Figure 2).

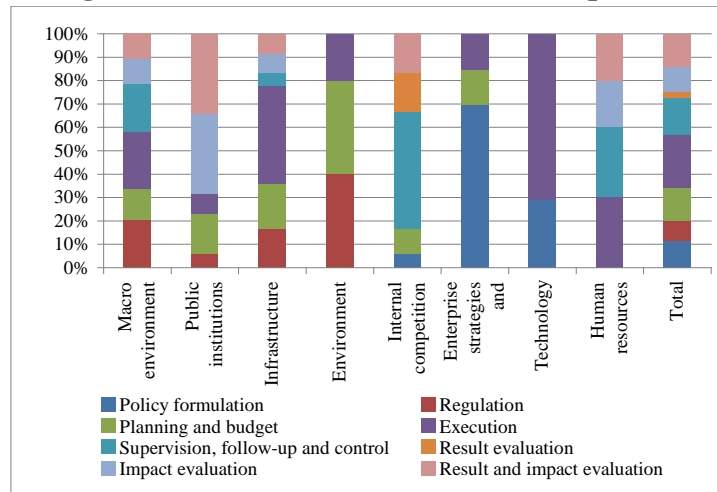
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<sup>9</sup> Agenda Interna para la Productividad y Competitividad, CONPES 3297 of 2004

<sup>10</sup> Like the FDI promotion agency, Coinvertir, absorbed by Proexport in 2003, and the regulatory and supervisory bodies for the financial sector, utilities and social services. However, nearly 160 public agencies were involved in these processes.

<sup>11</sup> It also found specific weaknesses in policy formulation in two areas (firm strategies and technology) and significant weaknesses in regulation in environmental policies.

**Figure 2: Weaknesses of the 1998/2006 process**



Source: BOT (2006).

The diagnosis included a wide survey to participants. In spite of the institutional problems indicated above, participants considered the overall “institutional structure” as moderately adequate (an average score of 3.2 over 5) but the overall strategy and process as inadequate (scores of 2.5 and 2.4). In particular, participants considered that the country did not have a clear and coherent competitiveness strategy and that the Government strategy lacked continuity (score 2.5); that there was a lack of a shared vision across groups on the competitiveness strategy (score 2.2), specially on the part of civil society organizations; that processes were weak (score 2.4), specially with respect to execution, monitoring and evaluation; and so were information and communications channels (score 2.5)<sup>12</sup>. The Survey highlighted the capabilities and commitment of some government agencies (specially DNP and the Ministry of Trade and its agencies and a few departments and municipalities) and private sector organizations, though not of other actors. In particular, civil society organizations, academic representatives, the ministry of Agriculture and its agencies and most departmental and municipal agencies received low scores on capabilities and commitment.

Participants highlighted the adequacy of the organization by productive chains and horizontal networks, though they were more critical about the regional networks, with some exceptions corresponding mostly to the largest Departments and Bogotá. However, another technical evaluation of Competitiveness Agreements led by CAF in 2005<sup>13</sup> had found “satisfactory” only 5 out of 38 competitiveness agreements by productive chains, none of them in the agricultural sector, and none of the horizontal networks (see Table 1).

<sup>12</sup> The diagnostic report also benchmarked the Colombian process vis a vis other countries (Finland, Sweden, Korea, Ireland, Malaysia, India, Vietnam, Senegal, Turkey, Latvia, Chile, Brasil and Mexico). It concluded that “successful cases” tend to have a simple institutional structure with strong leadership, a focus on firms and synergies between different policies and dimensions of competitiveness, strong Presidential backing, high participation in networks, accountability mechanisms and continuity. Colombia was found to have a relatively sound institutional structure (except for duplications between the RCC and the Domestic Agenda structures, which it urged to be integrated), but relatively weak processes, especially in terms of accountability (including M&E) and focus.

<sup>13</sup> Evaluation of Competitiveness Agreements by Corporación Calidad and CAF, 2005

**Table 1: Evaluation of sector level Competitiveness Agreements**

Grade	MCIT	MADR
Less than 30	6	5
Between 30 and 60	14	8
Between 60 and 90	5	-
Between 90 and 100	-	-

**Evaluation of specialized networks**

Energy	49
Management	48
Finances	43
Work	41
Transport	39
R&D	34
Telecommunications	29
Human capital	24

Source: Corporación Calidad and CAF (2005)

The CAF evaluation of competitiveness agreements included detailed surveys of participants and signatories<sup>14</sup>. For this purpose, seven out of 41 agreements were selected as representative of different epochs and characteristics of sectors, five national and two regional in scope<sup>15</sup>. Opinions, especially those from the private sector, were quite negative about the effectiveness of the agreements (see Figure 3): 68% of private sector answers considered that the agreements did not give an adequate base for a development strategy for the respective production chain. Several operational traits got poor marks, again specially from private sector representatives: insufficient coverage of key topics, poor communications, low level of participation of Government officials with decision making power. Public sector officials, in turn, felt weak participation and commitment from entrepreneurs (representation was mostly through business associations). In addition, most participants emphasized the need to establish quantifiable objectives and monitoring and evaluation systems. In spite of this rather negative assessment, there was general support for the objectives of the agreements and for the need of such mechanisms for public/private interaction. As a consequence, the key recommendations of this study were to appoint managers for each agreement, with own budgetary resources, and to establish quantifiable objectives and M&E systems to guarantee continuity and efficacy.

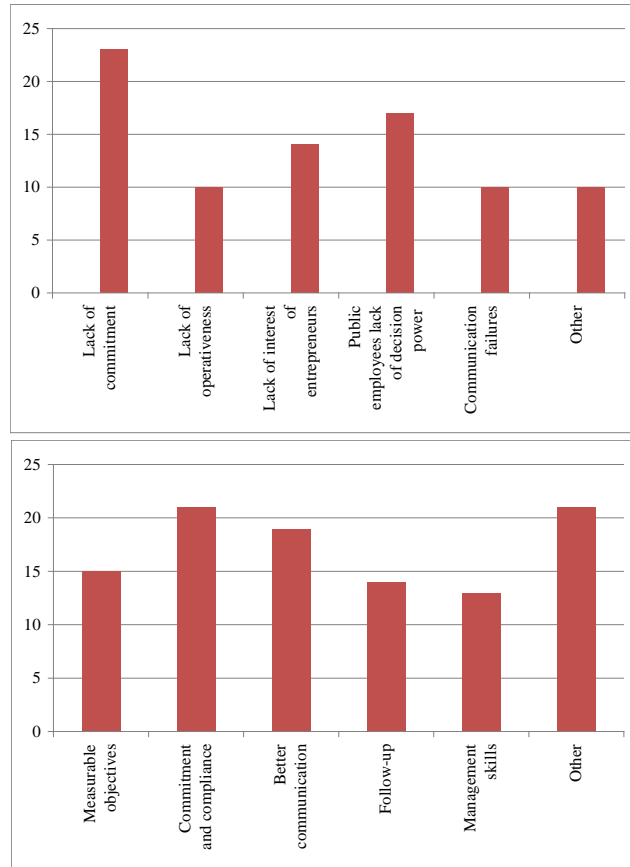
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<sup>14</sup> Participants and signatories do not necessarily coincide.

<sup>15</sup> Flowers; Cotton, Textiles and Apparel; Footwear and Leather products; Electronics (regional); Housing cluster (regional); Software; Logistics and Transport.



**Figure 3: Participants Survey - Aspects limiting the effectiveness of agreements**



Source: CAF (2005)

#### **4. The development of an integrated National Competitiveness System from 2006 onwards**

On the basis of these two diagnostics, the Government reorganized the institutional setup and redefined the strategy<sup>16</sup>. A well thought institutional structure evolved. First, it is a unified structure, coordinated by a national commission for competitiveness (CNC) composed by a balanced representation of public and private key interests<sup>17</sup>, with a

<sup>16</sup> CONPES (2006) Institucionalidad y principios rectores de política para la Competitividad y Productividad. Policy Document No. 3439. According to the recommendations of the two diagnostics, the strategy was to be based on focalization of priorities; precise goals and clear evaluation and accountability mechanisms; strong participation of the private sector and co-responsibility with governmental agencies; emphasis on SMEs and development of regional institutions and capabilities in laggard areas.

<sup>17</sup> Eight ministers, the directors of the science and technology agency (Colciencias) and the national training institute (SENA), the presidents of the national federations of Departments and Municipalities, 2 private sector representatives selected by the federation of business associations, 2 trade union representatives, the president of the association of universities, and a representative of regional universities and 3 independent members selected by the president.

public/private operational executive committee<sup>18</sup>, a governmental operational committee and a public/private technical secretariat<sup>19</sup>. The CNC established fourteen horizontal and ten vertical technical working groups<sup>20</sup>. Second, unified public/private regional commissions, merging existing ones, were established under the coordination of the Ministry of Trade and Industry and the Federation of Trade Chambers (Confecámaras). Third, a monitoring and evaluation system was designed and is being operated by DNP with results publicly available through a governmental webpage (SIGOB).

The CNC elaborated and CONPES approved in June 2008<sup>21</sup>, a new Competitiveness and Productivity Strategy. The strategy adopted as a basic principle that the competitiveness agenda would be based on productivity increases and not on reduction of labor costs or rent seeking activities. It envisaged a State role based on the provision of public goods as key inputs to increase the competitiveness and productivity of the private sector and the promotion of public/private alliances and regional competitiveness dimensions. The main goals would be to guarantee that “by 2032 Colombia is one of the three more competitive Latin American countries”; to achieve a level of income per capita corresponding to a high middle income country through an economy exporting goods and services with high value added and technological content and a strong investment climate; and to promote internal regional convergence, increased formal employment and sharply reduced poverty levels. It was deemed that productivity increases would have to come mostly by the development of new products and exports. The latter was a conclusion derived from a Hausmann and Klinger study<sup>22</sup> for the Private Council for Competitiveness.

The new strategy adopted detailed Action Plans for each of its working groups, with precise products, activities, indicators, goals and responsible Agencies, indicating progress to that date on each of them. The most interesting development to date relates to the Action Plan on developing World Class Sectors, which is discussed in Section 5 below. The SIGOB gives permanently updated information on the development of these Action Plans, as well as on other Government programs.

We should highlight the influence of external advisors (from Porter to Hausman) and institutions (WEF, World Bank, IADB, CAF and USAID) on these developments. In particular, the CNC and CONPES have adopted as explicit goals to improve Colombia’s score in the WEF Competitiveness Indexes and the World Bank Doing Business Reports. The Ministry of Trade has officials responsible for each set of indicators, who promote agreements among the relevant government units and monitor their implementation. All major cities have prepared action plans based on a sub-national report on Doing Business

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<sup>18</sup> Integrated by the Presidential Advisor for Competitiveness and Productivity, the Minister of Trade and Industry, the Head of DNP and the President of the Private Council for Competitiveness. Vice Ministers and Heads of key Government Agencies.

<sup>19</sup> Integrated by the Presidential Advisor for Competitiveness and Productivity, the Vice Minister of Trade and Industry for Entrepreneurship Development, a delegate of DNP and two Vice Presidents of the Private Council for Competitiveness.

<sup>20</sup> See Appendix 2.

<sup>21</sup> CONPES, Policy Document No. 3527 (2008).

<sup>22</sup> Hausmann and Klinger (2007).

financed by the WB and USAID. Not surprisingly, Colombia has won twice in a row the “prize” of major reformer according to the CDB indicators. Such a strong drive towards achieving improvements in these external indicators stimulate activism and compliance and facilitate monitoring and evaluation, but it can also bias efforts towards low cost actions that may not render the highest benefits. Indeed, there is no way to know at present the actual benefits on TFP increases of a given improvement in one or another of the individual WEF or CDB indexes.

## **5. Two Promising Initiatives.**

### **a. The Private Council for Competitiveness**

The creation of a Private Council for Competitiveness in January 2007 signaled an increased degree of commitment by the private sector to the Competitiveness Agenda and could make an important difference going forward in terms of effectiveness and continuity of the PDP process. The Council includes both business associations and selected successful entrepreneurs, committed to the concept that firm productivity is the key to competitiveness and growth, that the State has a purely facilitating role, providing both general and sector specific public goods, and that public/private alliances are needed to identify and support successful “bets” and emerging clusters, solve coordination problems and overcome bottlenecks. It has close ties to the US Competitiveness Council, which has been its inspiration, and has had Ricardo Hausmann as its main advisor<sup>23</sup>.

As part of CNC technical secretariat the Council was very active in the design of the new Competitiveness Strategy approved by CONPES and is pushing its development. It publishes an excellent Annual Report on Competitiveness<sup>24</sup>, which gives an updated diagnosis of national, sectoral and regional competitiveness issues and highlights advances and problems in the implementation of the agenda. Its current own initiatives are focused on logistics, informality, tax structure and intellectual property rights. It is also supporting important initiatives such as the establishment of a Labor Observatory, with the Ministry of Education, and an ambitious ITC plan under implementation by the Ministry of Communications. The Council has given public prominence and support to a modern competitiveness agenda, provides a non-official monitoring and evaluating channel and can potentially help to maintain continuity of the strategy.

### **b. Business Plans for World Class Sectors**

The Ministry of Industry and Trade, with the advice of McKinsey, identified a set of potential emerging world-class sectors for Colombia through a methodology (based on those followed by China, Korea, Dubai, Kuwait, Spain and Ireland) that contrasted global opportunities<sup>25</sup> with Colombian relative strengths (sectors with strong local development and/or potential for growth, significant actual export performance and competitive

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<sup>23</sup> Regional “product maps”, following Hausmann’s “open forests” concepts, have been produced to guide selection of growth areas. The potential usefulness of these exercises is still to be established.

<sup>24</sup> The second report was launched in November 5, 2008.

<sup>25</sup> Sectors with high global and regional growth, analysis of strengths and weaknesses of competitors, and identification of key success factors.

advantages) and weaknesses, according to a host of previous studies<sup>26</sup>. A preliminary group of emerging sub-sectors with strong export growth potential was identified for which a more detailed analysis of potential markets and entry barriers was undertaken. As a result, a “short list” of seven sectors was selected: business process outsourcing, software and IT services, health tourism, cosmetics, household appliances, auto parts and pharmaceuticals.

After an open call to these sectors for “sector level value proposals”, to which six responded, the best two were selected. Detailed Business Plans were elaborated for these two sectors (business process outsourcing and software and IT services), financed by the Ministry of Trade, with support of McKinsey and high industry participation, which were finalized and approved in August 2008. The Business Plans are based on a detailed identification and projection of global and regional market opportunities, benchmarking of Colombian strengths and weaknesses vis a vis potential competitors, establishment of goals and an action plan. As an example, for business process outsourcing, 31 required action initiatives were identified, 12 related to skill upgrading, 9 to the regulatory framework, 8 to industry maturing, and 2 to infrastructure improvements. It is estimated that the implementation of this plan may generate around US\$1.400 additional exports (out of US\$3.300 additional total sales) and 78.000 new jobs by 2012. Chapter V of this report discusses the Software Business Plan. From a second call for “sector level value proposals” two additional emerging export “growth” sectors were selected: health tourism and cosmetics, for which Business Plans are being produced following the same methodology.

This program for emerging export “growth” sectors is being complemented by a similar call for proposals to mature sectors with export growth potential. Following a similar methodology, 11 mature sectors with significant export growth potential through innovation and development of new products, were invited through their respective business associations to present “sector value proposals”: graphic industries, energy power, siderurgy and metal mechanics, jewelry, textiles and apparel, footwear and leather products, petrochemicals and plastics, fertilizers and pesticides, auto parts<sup>27</sup>, biotechnology and industrial and health gases. Seven of these sectors presented proposals that are presently under evaluation. In the case of mature sectors, the Ministry will finance only half of the cost of the elaboration of the Business Plan. A second round for a similar call for proposals in agricultural and agro industrial sectors is being prepared jointly with the Ministry of Agriculture.

The program was officially launched in October 2008 under the generic name of “Productive Transformation”. The Ministry emphasized in the presentation the differences with traditional industrial policies, specially the fact that it is a competitive program (without arbitrary selection of winners), as eventually the elaboration of Business Plans can be done jointly with any sector that presents a sound “value proposal”, and that no subsidies or differential tariffs or taxes are offered. The program

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<sup>26</sup> Porter, Haussman, IDI, Domestic Agenda, Araujo Ibarra, AT Kearney, Universidad del Valle, Colciencias.

<sup>27</sup> This was the second call for this sector.

has been well received, but it is still too early to be able to predict results or even continuity under the next Government<sup>28</sup>.

## **6. But bad habits are hard to die: the survival of a parallel track**

We described above the evolution of a process of policy experimentation and institutional construction for a modern PDP strategy since trade opening in the early nineties, which has been fraught with inconsistencies, weaknesses and lack of continuity, but that would appear to be maturing and consolidating into a participative, integrated and operative institutional structure and strategy, which is producing promising initiatives like the pilot Business Plans to achieve World Class Sectors discussed in the last section. However rent seeking is well and alive through parallel traditional tracks and there are still major questions about to what extent the new process of formulation of PDPs actually leads to policy decisions and constraints traditional non-transparent policy making, and even about the continuity of the present institutional setup and policies.

Indeed, though the World Class Sectors strategy emphasizes that subsidies and differential tax rates are not options to be considered within the process, there has been a proliferation of both subsidies and tax incentives within the present administration. The introduction of new tax incentives started timidly during the first Uribe Administration benefiting a few handpicked emerging “growth” sectors in 2003, such as biofuels (which are further discussed in Chapter V) and tourism. In 2004, a generous temporary income tax reduction for investments financed out from retained profits was established, with the stated purpose of stimulating investment. This decision was accompanied by a major public discussion in which many expert voices pointed out that an incipient investment boom was already underway fueled by a favorable external environment and significant improvements in public order, so such an additional stimulus was unnecessary and rather imprudent given the existing high central government deficit and public debt levels<sup>29</sup>. In 2006, the Minister of Finance presented to Congress a bold tax reform proposal that would eliminate most tax incentives and at the same time significantly reduce the Corporate tax rate, which was one of the highest in Latin America. The general direction of this proposal received significant support from academia and the media<sup>30</sup>. However, to everybody’s surprise the President began to offer not only to keep most existing tax incentives, but also to introduce new ones, during his interventions in sector business gatherings. The tax reform approved was almost the opposite of the initial draft: an even higher tax reduction for investments financed by retained profits became a permanent feature of the tax system and several new exemptions were introduced, much to the regret of the Minister of Finance who, when leaving office, openly criticized the tax reform and said this had been his major disappointment. Indeed, since then, tax incentives are openly

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<sup>28</sup> Source: Discussions with Minister Luis Guillermo Plata and his team.

<sup>29</sup> See, for example, Fedesarrollo’s *Tendencia Económica*, several numbers. The President consulted the opinion of a group of Ex Ministers of Finance, which was overwhelmingly negative to the proposal.

<sup>30</sup> Though there was some opposition to an initial proposal to convert the Corporate income tax into a cash flow tax (permitting full expense of investments and eliminating depreciation allowances and interest deductions and, specially, to a subsequent “hybrid” proposal among these two types of taxes, which would have produced negative marginal investment tax rates.

promoted and defended by the President as a key handle for increased investment and growth and as an essential component of his government's economic policy.

Similarly, in 2007 the government enacted a new regime for Free Trade Zones, through two successive decrees<sup>31</sup> regulating Law 1005 of December of 2005. Law 1005 permitted the Government to comply with WTO mandates by converting them to general-purpose free trade zones in which firms would be able to import capital goods and inputs free of taxes (tariffs and VAT) and be subject to a reduced corporate income tax rate of 15% (less than half the full rate of 33%). The decrees extended these privileges not just to existing export promotion zones, but to a wide variety of permanent or temporary zones, including ports, mining zones and individual projects located anywhere, as long as they exceed minimum investment or employment levels. Even existing firms can be converted to an FTZ if they undertake a significant expansion. The decrees were "negotiated" to make sure that particular investment projects fitted the conditions. In practice, the new FTZ regime is essentially a mechanism to grant tax incentives to large firms in a more or less discretionary way<sup>32</sup>. From 11 previously existing FTAs (see Chapter IV) there are 38 approved by now (see Table 2).

Entrepreneurs claimed in our interviews that these tax incentives do not affect in a significant way their long-term "business plan" (expansions and product diversification). They, of course, admit that they are a welcome addition to their cash flows and that, on occasion, they influence the choice of technology (by allowing them to choose the most expensive, presumably capital intensive technology). Further, authorities and beneficiaries are aware that the regime is creating major tax discrimination among competing firms and that the situation will be untenable in the future, requiring a unification of tax regimes. Because of this, all firms benefiting from the new regime are subscribing tax stability agreements with the government, which will force the future unification to happen at the reduced rate of 15% independently from actual fiscal needs. Further, as the tax reduction for new investments and the new FTZ regime evolved independently neither the government nor Congress realized they would be cumulative, leading to several instances of negative marginal rates. This unexpected result is so preposterous that the Government has included in a recent draft law an article prohibiting the accumulation of these benefits<sup>33</sup>.

As a further example, several agricultural lobbies fiercely opposed granting tariff reductions under an FTA with the US. In spite of the considerable interest of President Uribe in negotiating such a Treaty, the government attempted to either exclude or obtain long periods for tariff reductions in several so called "sensitive" agricultural sectors, to the extent that this position significantly delayed final agreements until after Congressional elections in the US and thus contributed to present difficulties in obtaining approval in the US Congress. In the end, the government attempted to obtain support from agricultural lobbies by promising considerable subsidies through a law called "Agro Ingreso Seguro" (secure income for agricultural producers), to partially or wholly

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<sup>31</sup> Decrees 383 of February and 4051 of October 2007.

<sup>32</sup> *Economía y Política*. No. 34. Fedesarrollo. Bogotá, 2008.

<sup>33</sup> *Economía y Política*. No. 34. Fedesarrollo. Bogotá, 2008.

compensate for potential adverse effects of the FTA on those sectors. Ironically, the Treaty is not under effect and its perspectives are rather dim, but the “compensation” is flowing generously without clear or transparent criteria. Though some evaluations of the programs financed through this law are taking place, they are unfortunately not available at the time of writing.

**Table 2: Investments benefiting from tax reductions under the new FTA regime**

Free zones			
	Total zones	Total employment generated	Amount invested (\$mill)
Approved FZ	25	125,022	2,863,280
Approved widened FZ	3	3,050	1,709
Approved Plan Maestro by the Comisi—n Intersectorial. Pending DIAN declaration	10	10,157	6,790,717
Total	38	138,229	9,655,706

Source: Ministry of Industry and Trade.

It is beyond the scope of this paper to attempt an assessment of these interventions. General expert opinion, even within Government officials -as transpired during the interviews we conducted-, is that what is going on with the allocation of these subsidies is “rent-seeking” big time. As an example, the Government decided in 2006 to revive subsidies to exports<sup>34</sup> in order to “compensate” for the effects of currency appreciation on selected sectors. Criteria for selecting sectors or fixing the level of the exchange rate over which compensation would take place or amounts involved (4% of value of exports) were non transparent and seemingly arbitrary. The second Competitiveness Report recently launched by the Private Council for Competitiveness highlighted that most of the Agro Ingreso Seguro resources are being used to subsidize credit and hedges (55.7% and 8.5% respectively) and to grant direct subsidies and “compensations” (22.8%) to specific sub-sectors. The Council view is that large and middle-sized producers could access commercial credit and derivative markets without subsidies and that the contribution of occasional direct subsidies and compensations to productivity is highly suspect<sup>35</sup>. It implicitly suggests that the latter should be eliminated and the former focused on small producers, and more resources devoted to “public goods” such as R&D and extension services and phytosanitary campaigns.

As a final example, the annual budget is Constitutionally mandated to conform to a four-year investment plan approved by Congress as part of the National Development Plan at the beginning of each Presidential period. The draft of these laws is prepared by the DNP, who was in charge of the Domestic Agenda consultations. Not surprisingly, DNP did its best to reflect the outcome of those consultations in the Investment Plan for 2006-2010. However, there is little evidence that Annual budget drafts and approvals actually reflect the Domestic Agenda priorities.

<sup>34</sup> That had been previously dismantled to comply with WTO mandates and as a consequence of the 1999 fiscal crises.

<sup>35</sup> Private Council for Competitiveness (2008).

As a case in point, as the Domestic Agenda consultations highlighted major transport infrastructure needs, the Planning Department and the private Council for Competitiveness followed up in identifying a set of priority infrastructure projects deemed as “the national roads for competitiveness” However, neither annual budgets nor transport policies have given high priority to these roads or other primary roads, at least until recently, as continuously criticized by the “Cámara de Infraestructura” and brought out clearly by our interviews with all actors of the PDP consultation process. Instead, the ministry of Transport and the budget have given higher priority to an ambitious “Plan 2500” that attempts to build 2500 kilometers of secondary and tertiary roads (which should be carried on by Departments and Municipalities) in a short period of time. It is widely believed that Plan 2500 is, if anything, the currency with which regional and Congressional support for the reelection of President Uribe for the 2006-2010 period was bought. Plan 2500 also lends itself to a large number of small contracts to local contractors that play an important role in local electoral financing. Thus, traditional clientelistic politics and rent-seeking seem behind the partial displacement of “roads for competitiveness” for “roads for governability”.

The strength of these clientelistic, rent-seeking, parallel tracks is probably a reflection of the general clientelistic nature of party politics in Colombia. It is however beyond the scope of this study to explore this or other hypothesis behind this fact.

Conversely, even if the proposals from CNC have been granted Governmental approval through CONPES 3527 and other policy documents, many participants in the process are somewhat skeptical that such approvals will necessarily translate into full execution and, thus, into actual Government priorities. In interviews conducted, some participants indicated how some key specific actions agreed upon through sector level Competitiveness Agreements were repeatedly “approved” through CONPES documents during the last three Governments until they were finally executed<sup>36</sup>. As indicated above, evaluations conducted in 2006 found that “execution” was the weakest chain in the competitiveness Agenda process.

It maybe that the new trend towards precise and dated actions and goals and public monitoring through SIGOB may improve actual compliance with CONPES approved agreements. But the jury is still out. The same is true for those actions agreed under the World Class Action Plans under the Ministry of Trade and Industry that must be executed by other Ministries. As mentioned above, this was a major problem for the Competitiveness Agreements signed from 1998 to 2002 under the leadership of the former Ministry of Trade. Though the current Ministry seems to have been able to commit the support of two key ministries for the first two pilots (Education and Communications, which are currently led by technocratic ministers), participants in the interviews were skeptical about the potential cooperation of other ministries, notably Transport.

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<sup>36</sup> This was the case, for example, of an expansion and upgrade of the Cartagena refinery, which was deemed essential for further development of the petrochemical industry.



All in all, the “new” participative PDP process appear to be still of marginal importance, as compared to the amount of resources, financial and human, deployed through the traditional clientelistic track. It might be that it is precisely for this reason that the current PDP “process” appears as relatively uncontaminated by rent seeking: there are enough opportunities elsewhere to benefit from pork. However, this condition of relative “marginality” also makes it frail. Indeed, the other major concern is about continuity of policies. The account in this chapter shows how Competitiveness policies and institutional structure have been subject to major changes every time a new Government takes over. It is thus by no means clear that the current structure and approach will prevail in a future Government. Even a change of Minister of Trade (or of presently key allies such as the Ministers of Education and Communications) could weaken considerably the process, as happened with the previous Red Colombia Compite. It could be that the presence of an organized and committed Private Council for Competitiveness this time makes a difference. Admittedly, if current policies can show some important successes, well-documented and evaluated, chances of continuity will increase. However, the jury is again still out in this regard.

## **7. Assessment of private participation in policy-making**

Tables 3 to 5 summarize the answers of firms to the module on PDPs included in Fedesarrollo EOS on October 2008 for the purpose of this study about their participation in the policy-making processes and their evaluation of the qualities of such processes<sup>37</sup>. As can be seen from Table 3, 30% of firms acknowledge having had some participation in these processes. The corresponding figures for large, medium and small firms are 38%, 16%, and 29%, respectively. It is surprising that small firms claim much higher participation levels than medium size firms, but such a trait is corroborated by other answers to the questionnaire. Participation seems to have increased considerably in the present decade, especially among small firms.

Most firms that have participated in PDP policy making have done so in the context of Business Associations’ initiatives (16% of total firms), and only 12% of responding firms have participated in Government sponsored scenarios (5% in the Domestic Agenda consultations, 4% in negotiations of Competitiveness Agreements, 2% in Communal Councils and 1% in National Development Plans consultations). Small firms claim more participation than medium size firms through most channels, specially through Domestic Agenda consultations and Communal Councils -where their participation rates exceed even those of large enterprises-, with the exception of negotiations of Competitiveness Agreements which seemed limited to large and medium size firms

Given these results it is not surprising that very few firms rate participation mechanisms as adequate (3% out of 30% that participated), especially among small and medium size firms. Most firms claim that channels are essentially limited to firms represented by a powerful business association (11% out of 30% that participated), to

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<sup>37</sup>Appendix 1 contains a description of the survey and presents a more complete version of these results.

large firms (6%) or to groups with regional political power (6%). 4% out of the 30% that participated claim that there are no effective implementation mechanisms.

**Table 3: Participation in PDP policy-making  
(% over total firms in each category)**

	Total		Large		Medium		Small	
	Yes	No	Yes	No	Yes	No	Yes	No
<b>Participation in the formulation of policies</b>	30	70	38	63	16	84	29	71
<b>If affirmative:</b>								
Participated before 1991	11		18		3		0	
Participated in the 90's	14		20		3		9	
Has participated in the present decade	27		33		15		26	
<b>Participation in the context of:</b>								
Negotiations of Competitiveness Agreements	4		5		3		0	
Discussion of Domestic Agenda	5		7		0		10	
Formulation of National Development Plan	1		2		0		0	
Communal Councils	2		2		0		5	
Business association initiatives	16		20		11		14	
Other	2		2		1		0	
<b>Participation mechanisms are:</b>								
Adequate because the government provides sufficient spaces for participation	3		6		1		0	
Only for firms represented by a business association	11		13		7		9	
Only for large firms	6		6		3		13	
Only for groups with political power in the regions	6		7		3		4	
Not working due to lack of mechanisms to implement the policies formulated.	4		5		1		4	

Source: Fedesarrollo EOS October 2008.

Table 4 shows a breakdown by main interlocutors. As observed, lobbying in Congress is quite common to all firms (around 18% of total). It is surprising that the President has been the direct interlocutor in half of the cases in which firms have met with executive officials. Firms claim much higher effectiveness of interactions with the President than with other interlocutors. Large enterprises, as expected, use more varied channels than other firms (including technical public officials, and professional lobbyists and “other channels”). These “other channels” are also reputed to be highly efficient in obtaining desired results.

**Table 4: Participation in PDP policy-making by main interlocutor  
(% over total firms in each category)**

	Total	Large	Medium	Small
One or more congressmen	18	21	12	19
The President	5	7	2	5
A Minister or Vice-minister	3	4	2	5
Other public officials	2	4	0	0
No response	2	3	0	0

Source: Fedesarrollo EOS October 2008.

**Table 5: Interaction effectiveness, by interlocutor (%)**

	Successful: a similar policy was implemented	Moderately successful: a similar policy was implemented	Moderately successful: a compensatory policy was implemented	Not successful: the policy request was denied
One or more congressmen	25	25	25	25
The President of Colombia	39	50	11	0
A Minister or Vice Minister	20	29	34	17
Other public officials	23	15	15	46
Other channel	38	25	25	13

Source: Fedesarrollo EOS October 2008.

In concluding, firms' participation in PDP decision-making processes appear to have increased substantially in the present decade, especially for small firms, thanks to the broad Domestic Agenda consultation process and frequent Communal Council meetings presided by the President himself. Business association initiatives (such as annual assemblies and public specialized events, where the President and high public officials usually attend, and organized private meetings with authorities), however, continue to be the main individual channel of participation. Large firms use a wider variety of participation channels, including hiring professional lobbyists, "influential" persons and direct lobbying. Thus, in spite of increased participation rates, most firms, specially small and medium sized ones, feel that Government sponsored channels are still inadequate, as they are open mostly for large firms, powerful business associations or groups with local political power. These conclusions were broadly supported in our direct interviews.

### III. Analysis of the current PDP system

The theoretical justification for industrial policy is not a settled question. The standard notion is that governments intervene to alter the structure of production towards sectors with greater prospects, to attain growth levels that would not be attained in absence of intervention, by a typical process of industrial evolution. There is a considerable amount of literature about industrial policy, with divergent views. Part of it explores the empirical relevance of market failures that would justify industrial policy, while another part debates if government failures from lack of information and badly aligned incentives make it impractical to engage in industrial policy even in their presence.

Harrison and Rodriguez-Clare (2008) argue that the standard model of industrial policies is not always useful as a guide for policy in least developed countries. When there is a latent or dynamic comparative advantage associated to local externalities that

increase with the size of the industry<sup>38</sup> and there is a specific coordination failure preventing it from being exploited, temporary protection (or a direct subsidy) may turn that latent comparative advantage into an effective one. This is the case for infant-industry protection. Such policy can be welfare enhancing if the discounted future benefits compensate the present costs of protection (or if the less stringent condition that the protected sector can eventually survive international competition without protection is met). In absence of a latent comparative advantage industrial policies aimed at sectors likely to have Marshallian externalities can still be justified, under the condition that there are rents associated to the advanced sector, or that there are inter-industry externalities such that having a large advanced sector increases overall productivity.

But agglomeration effects may depend on the way production is carried out - externalities may not be intrinsic to sectors but to the way in which they are organized. In this case, output reallocation across sectors is not enough for productivity enhancement. When there are coordination failures that do not disappear as a sector becomes large, protection and subsidies fail, and policies called for are more of collective action. In this context, sectors that merit special consideration for PDPs would be “ones that have large opportunities for productivity-enhancing collective action, or that have high world demand relative to the combined size of countries that have achieved such collective action”, and the appropriate policy interventions are focused not on the sector or industry itself, but on the activity or technology that produces the characteristics of the coordination failure – this holds true even if the ultimate target is a particular sector.

Also, since diversification of the productive structure is a way of increasing productivity, policies to encourage discovery (and through it, diversification) are desirable. Hausmann and Rodrik (2003) argue that countries do not know their cost structure, so they don't know the goods in which they have a comparative advantage, and this must be discovered through costly experimentation. Because this is plagued by information externalities, it has social benefits higher than the private benefits it generates, so the market by itself leads to sub-optimal levels of discovery and diversification. Policy interventions once more should be targeted on activities rather than on sectors per se.

Rodrik (2004) emphasizes that the task of industrial policy is as much about eliciting information from the private sector on significant externalities and their remedies as it is about implementing appropriate policies. Identifying the appropriate policy outputs depends on the opportunities and constraints that are identified through a deliberative process in each particular case. Design principles for adequate industrial policy include, however, providing incentives only to new activities -products that are new to the local economy or new technologies for producing existing products-; having clear criteria for success and failure of promotion efforts so that failures do not get entrenched; including built-in sunset clauses; targeting activities rather than sectors; and ensuring subsidized activities have a clear potential of spillovers.

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<sup>38</sup> Marshallian externalities arising through localized industry-level knowledge spillovers, input-output linkages together with transportation costs, and labor pooling.

Finally, there are government failures and institutional shortcomings that are often a fundamental stumbling block, and can be major constraints on economic growth. While direct action to solve them would be the first best route, there are often political economy constraints that make that difficult. When this is the case, “second best” compensatory interventions in their place are preferable to doing nothing.

This literature provides elements useful for analyzing the quality of PDPs in Colombia from the point of view of their design and the rationales that support them that are used in the following chapters in the analysis of specific policies. This chapter starts by characterizing the Colombian PDP system according to the degree of transversality of policies and programs and to the shape in which they materialize (as public goods or as direct market interventions), and investigates to what extent PDPs available are perceived by the private sector as addressing actual market failures or other restrictions to investment.

### 1. Broad PDPs classification

Figure 4, below, presents the classification of the sets of PDPs in place, according to their degree of transversality and to the shape in which they materialize (as public goods or as direct market interventions).

**Figure 4: PDPs classification matrix**

		Transversality	
		Horizontal	Vertical
	<b>Public input</b>		Business plans for selected sectors.  Services provided by sector specific public-private funds partially financed by compulsory contributions from producer (agricultural sectors).
	<b>Market intervention</b>	Tariff exemption for imported machinery VAT exemption for imported machinery VAT exemption for industrial machinery Deducibility of fixed assets investments from taxable income  Subsidized financing to SMEs Cofinancing of business startup projects and of technological innovation projects to SMEs Facilitation of access to credit through guarantee system  Export promotion policies.  Financial support for R&D projects and R&D training.  Professional and technical training (skill specific)	Income tax exemptions for selected sectors Tariffs VAT exemption for industrial machinery Band tariff system for selected agricultural crops and agroindustrial sectors. Price support schemes to selected agricultural and agroindustrial sectors Direct subsidies to investments in agriculture. Direct compensation for exchange rate fluctuations to selected exporting sectors.  Professional and technical training (sector specific)  Business plans for selected sectors.  Financial support for R&D projects and R&D training (sector specific)

Some items appear in more than one quadrant. This is the case, for instance, of professional and technical training offered through SENA to workers with no distinction of their sector of employment, and training also offered through SENA to workers of

selected sectors. These types of training differ to the extent that the former is intended to strengthen work skills that are common to different types of labor and will eventually allow workers to reallocate across productive sectors (*i.e. learning English*) while the latter is intended to provide sector-specific skills (*i.e. particularities of cotton*). We consider this item belongs in both quadrants since, depending on the form it takes, the market failures it addresses, and the incentives it provide are nor the same. For similar reasons, financial support for R&D activities also appears in more than one quadrant. While Colciencias allocates resources for R&D across sectors, usually through competitive processes, on occasion it also targets specific sector-specific R&D developments. Moreover, there are institutions that channel R&D resources to specific sectors, like Corpoica, created to promote R&D in agriculture.

We have also classified Business Plans for selected sectors in both the public input and market intervention quadrants of sector-specific PDPs. As mentioned above, these are new instruments developed jointly by the Ministry of Industry and Trade and sector representatives at request of the private sector, intended to develop a long-run strategy for the sector and to commit both public and private actors to actions directed towards obtaining specific objectives. So far, Business Plans for the Software and Business Process Outsourcing sectors have been developed, and Business Plans for the Cosmetics and Medical Tourism sectors are underway. All actions agreed upon in these plans are sector-specific, and include in some cases direct provision of public inputs.

## **2. Perceived market failures and other restrictions to investment**

In this section we explore the perceptions of the private sector about the most felt restrictions to investment and the adequacy of the policies available to solve them, using two sources of information: a database containing the record of the interaction of government authorities and private sector representatives in the context of the Domestic Agenda for Productivity and Competitiveness<sup>39</sup>, and the results of a special module of Fedesarrollo's Entrepreneurial Opinion Survey (EOS) on PDPs, prepared for this study. Appendix 1 describes these data sources more thoroughly and presents summary tables of their results.

### **a. Domestic Agenda**

The Domestic Agenda for Productivity and Competitiveness was created in 2004, under coordination of the National Planning Department, with the purpose of defining short-run and medium-run plans, programs and projects to "take advantage of the opportunities and mitigate the risks associated to increased integration under the Free Trade Agreement with the U.S." (under negotiation at the time). It relied for policy

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<sup>39</sup> The database of the Domestic Agenda was available from the National Planning Department (DNP). The research team coded needs and policy requests for the purpose of this study.

design upon dialogue with all interested public and private actors, usually represented under organized associations<sup>40</sup>.

The most striking result of the record from this interaction is the frequency with which the problems pointed at, fall in the category of government failures (52% of all responses)<sup>41</sup>. The three problem categories ranking next all point, however, to coordination failures preventing firms to gain access to new markets and new business opportunities. They concentrate about 30% of the responses. Poor access to technological innovation and insufficient human capital follow capturing each a fraction of responses of around 6%. Accordingly, the policies or courses of action requested by the private sector as potential solutions to their perceived problems include institutional development in the first place. Requests to strengthen cooperation strategies, and help in the development of commercialization channels, follow.

A revision of the private sector's claims in the context of the Domestic Agenda shows that the most required policy efforts fall largely in the quadrant of horizontal public inputs, banned from analysis for the purpose of the present study: institutional strengthening; development of inter-institutional programs; red tape reduction; improvement of transport infrastructure and logistic capacity; development of information systems; and improvement of basic education are typically horizontal policy areas. There surely can be edges of them of a more vertical character, but the most salient problems identified by the private sector in the context of the Domestic Agenda call for solutions that are not sector-specific in principle. It also shows that export promotion policies designed to facilitate access to information of new markets, commercialization channels, and international quality standards, are policy instruments that respond to problems clearly identified by the private sector and associated to market failures. To that extent they represent good policy design. This is true too about policies for education/training improvement (both skill and sector specific) and about policies for technological improvement.

### **b. Fedesarrrollo's Entrepreneurial Opinion Survey (EOS)**

Perhaps due to the context in which the questions are posed and in the way they are framed, the assessment of perceived problems obtained by means of the PDP module added to the EOS in October 2008, gives a different picture about the most frequent concerns of the private sector, with "high taxes" and "high costs of financing" coming up more frequently<sup>42</sup> (see Table 6). Both sources coincide, however, in singling out lacking infrastructure as one of the most important restrictions facing productive activities, and in

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<sup>40</sup> Twenty-one ISIC 3-digit sectors, eleven from manufacturing and ten from services participated in the Domestic Agenda dialogue tables.

<sup>41</sup> The higher concentration of complaints occurs in the category of "Regulatory instability / inadequacy". The 52% statistic results from adding to these, the responses under "Weak or lacking institutions", "Poor or insufficient infrastructure services", and "Insufficient quality control and certification". Interestingly, only 0.6% of the participants in the dialogue tables point at National security as a limiting factor to their activity.

<sup>42</sup> Potential explanations for the differences are provided in Appendix 1.

assigning significant weight to problems arising from government failures – 30% of all responses fall in this category<sup>43</sup>.

**Table 6: Perceived restrictions to productive investment (% over total responses)**

Restrictions to productive investment	All	Large	Medium	Small
High taxes	19	19	18	21
Poor or insufficient infrastructure services	16	18	15	9
High cost of financing	15	14	15	22
High input costs	9	10	8	6
Poor or insufficient human capital	7	6	7	18
Difficulty to access international markets information	6	4	8	6
Uncertainty about appropriability of returns due to regulatory instability	6	7	3	3
Lack of risk capital resources	4	4	4	4
Uncertainty about appropriability of returns due weak competition policy	4	4	4	3
Labor market rigidities	4	3	7	1
Uncertainty about appropriability of returns due to National security problems	4	5	2	0
High costs from red tape and licenses	3	3	3	3
Poor access to financing due to excessive collateral requirements	2	2	2	3
Difficulty to comply with quality standards in international markets	2	1	3	0
	100	100	100	100

Responses to the EOS provide support for policies designed to lower the costs of financing for all firms, and particularly for the smaller, for which costly financing is a relatively more important restriction (replies of small firms fall in this category 22% of the time, while the same statistic for all firms is 15%). This is probably associated to the fact that markets fail to identify good risks when it comes to small players with no previous banking history and as a result small firms often obtain financing, when they do, from sources outside the financial sector and/or at higher costs. Responses to the EOS do not, however, justify sector specific tax cuts or tax cuts privileging particular types of firms. The results obtained support, instead, lower tax rates for all firms.

The EOS shows an increasing use in the 2000s of policy instruments that target information and coordination failures preventing entry into new markets<sup>44</sup> (market information, support for participation in fairs and events and for contacts with potential clients). Use of tax breaks and exemptions is also more pervasive than in the previous decade and so is participation in quality certification programs. This reflects fairly well the emphasis of the policy supply in recent years. Most firms taking advantage of the policy instruments available are, however, medium and large firms. Interestingly, small firms show above average participation in programs facilitating access to collateral.

When asked to rate the policy instruments available, on average 40% of firms declare to be unsatisfied (see Table A1 3). They consider the PDP supply to be either inadequately designed and/or poorly implemented. Ratings vary somewhat across both instruments and firm sizes, and fare best for quality certification, phytosanitary certification and red tape reduction programs. Respondents who were active before the 1990s, however, evaluate most PDPs better after 2000 than in previous years, apparently reflecting a relative success of the government in adjusting its policy supply to more adequately match the needs of the private sector. These results must be taken with

<sup>43</sup> In addition to lacking infrastructure, problems categories taken into account in this statistic include weak competition policy, regulatory instability, National security and high costs from red tape and licenses.

<sup>44</sup> Market information, and support for participation in fairs and events, and for contacting potential clients.



caution, however, since the private sector can assign a good grade to a policy instrument for a reason unrelated to good policy design. For example, firms will tend to grade generously any policy that improves their cash flows (and their internal rate of return), regardless of whether it is the correct response to an identified market failure. This probably explains both, the improvement in the evaluation of corporate tax reductions and exemptions that are a widespread practice since 2002, and the deterioration in the evaluation of Tax Reimbursement Certificates for Exporters (CERTs) that were reintroduced in 2002 after being suspended, but are now smaller than they used to be.

#### **IV. Horizontal PDPs**

Colombia has had a long history of horizontal PDPs, mostly in four areas: export promotion, support to SMEs –specially through access to credit-, skill training and innovation. This section examines the evolution of stated objectives and theoretical conception behind the interventions, the design and use of instruments and evidence from previous studies about their impact. In addition, it examines recent evidence on use and users assessment of adequacy and impact of these instruments based on answers to the Fedesarrollo Entrepreneurial Opinion Survey (EOS) conducted for this study; on export promotion instruments collected from primary sources<sup>45</sup>; on access to credit by SMEs from the ANIF SME Survey, and primary data collected from the Superintendence of Financial Institutions; and on innovation support instruments from Colciencias and other sources. Finally, it summarizes econometric evidence from previous studies about impact of export promotion instruments (mostly from studies before 1991) and presents some updated estimates

##### **1. Export Subsidies and Promotion**

###### **a. Rationale and evolution of support instruments**

Colombia has had a long history of export subsidies and promotion schemes, as has been the case in most other LAC countries. The rationale, choice of instruments and design criteria has varied overtime.

Several instruments designed before trade opening were basically geared to avoid or compensate for excess costs imposed by protectionist policies under the ISI strategy and for other “government failures”, in the spirit of second-best policy. This was the case in particular of:

- Plan Vallejo, a system for input duties drawback instituted in 1959 and still in use, applicable to all export sectors. It is a relatively high transaction costs system and is thus in practice mostly used by large firms in sectors that are intensive in either imported capital goods or intermediate inputs. It has been broadened overtime to services sectors and fine tuned to avoid discrimination against national producers competing with imports (by

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<sup>45</sup> Ministry of Industry and Trade, Bancoldex, Proexport and DIAN.

including an imputed rebate proportional to the tariffs that would be paid by competing imported inputs).

- CAT (Certificado de Abono Tributario), a subsidy proportional to exports gross value introduced in 1967. This subsidy applied initially to all non-traditional exports with a basic rate of 15% and its explicit rationale was to compensate for the biases against non-traditional exports that resulted from the import substitution policies<sup>46</sup>. As a consequence, firms benefiting from Plan Vallejo did not benefit from CAT. CAT was afterwards converted into CERT (Certificado de Reembolso Tributario) with differential rates by sector, intended to approximate the value of taxes paid in inputs (to make it more compatible with WTO regulations). The average rate was reduced in the eighties and further in the nineties, until it was basically eliminated in 2002, both as a consequence of fiscal stress and to comply with the WTO agreement on subsidies. It was temporarily revived in 2007 to compensate some sectors for currency overvaluation. In practice, CERT rates have been rather arbitrary responding to a combination of sector level rent seeking pressures and fiscal constraints.
- Export Free Zones, instituted by law 109 of 1985. As in other countries, ETZs were thought of both as compensating for Government failures (reducing transaction costs, avoiding tariffs on inputs and benefiting from a stable regime) and outright incentives (income tax exemption). As discussed below, ETZs never covered a high proportion of exports, as in other countries. ETZs were converted in 2007 to general purpose Free Trade Zones, in order to adapt to WTO agreements but also to institute a preferential tax regime for large investments, whether oriented to domestic or foreign markets, as discussed above.

However, even as early as 1967 an Export Promotion Fund (Proexpo) was created to help solve two kinds of perceived market failures<sup>47</sup>. First, those associated with coordination problems and entry barrier costs related to gathering of external market information, identification of new export opportunities and opening of new markets for existing or new export products. As discussed in Chapter III, the fact that “first movers” have to bear these market development costs and risks, while followers can benefit freely from first mover successes or failures (eg, benefit from significant externalities), leads to a clear cut case of an important market failure: an aggregate underinvestment in developing new exports or penetrating new markets, which has been widely recognized in the recent technical literature<sup>48</sup>.

The second perceived market failure that Proexpo was supposed to solve was related to access to credit issues. In particular, the lack of adequate access to export and long

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<sup>46</sup> See G. Perry (2008).

<sup>47</sup> See G. Perry (2008).

<sup>48</sup> See recent analytical contributions supporting the existence of market failures in these areas in Imbs and Warcziag (2003); Hausmann and Klinger (2006); Hausmann and Rodrik (2003); Harrison and Rodriguez-Clare (2008); Lederman and Maloney (2007); De Ferranti, Perry, Lederman and Maloney (2002).

term credit, in terms comparable to competitors from elsewhere, was perceived as a limitation for export growth and diversification, beyond the capacity of individual exporters to overcome. It is debatable to what extent this problem of an “unleveled playing field” arose from government failures at home (insufficient domestic financial market development due to poor Government policies) and abroad (official subsidized credit to exports) or from true market failures (the fact that credit access by a particular exporter does not depend on its intrinsic creditworthiness but on overall country risk). In any case, it does seem clear from most available studies that access to low cost export (and investment) credit played an important role in facilitating non-traditional export growth<sup>49</sup> and that there was a need for this kind of intervention. What was more debatable was the early use of public funds and Central Bank credit to extend subsidized credit to exporters, but these features of Proexpo were abandoned in 1991.

Indeed, the Fund, under Central Bank management, was initially financed by an additional 1% import surtax (increased to 4% in 1974) and access to Central Bank rediscount facilities. Proexpo supplied subsidized credit to exporters and trade-related information to potential exporters, promoted and supported market contacts, organized trade promotion events in Colombia and elsewhere as well as trade missions and attendance of actual and prospective exporters to international fairs. It also, on occasions, subsidized transport and insurance costs for exporters in a given sector.

In 1991, Proexpo was split into two independent agencies: Bancoldex (an Export Bank) and Proexport (an Export Promotion Agency). This reform was prompted both by specialization needs and the Constitutional Reform of 1991, which prohibited the Central Bank to continue extending development credit through rediscount facilities. Bancoldex was, as a consequence, organized as a public commercial Bank, which would be managed in commercial terms without receiving budgetary or monetary subsidies apart from its initial capital base. It is reputed to have been a well run Bank, so much so that in 2003 the Government decided to liquidate the former Industrial Promotion Institute (IFI) and transfer its standing credit lines to Bancoldex. Bancoldex, in agreement with the Government, cancelled all existing IFI credit lines except those geared to SME finance, which have been expanded substantially from there on, becoming the main public credit support agency for SMEs, as indicated in subsection c below. Overtime Bancoldex developed other financial instruments for exporters, such as a limited export insurance scheme and currency swaps. Currency swaps for agricultural exporters have received significant public subsidies in recent years through the Ministry of Agriculture, a feature that has been subject to criticisms (see Chapter II).

Proexport was given an initial endowment and has received limited budgetary support. It is also reputed to be a well run Agency and existing studies have found robust evidence of a positive impact of its services on export growth and, specially, on export product diversification<sup>50</sup>. Because of this, and disappointment with the performance of the FDI Promotion Agency (Coinvertir), the Government decided in 2005 to liquidate the

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<sup>49</sup> Villar (1992).

<sup>50</sup> See Volpe and Caraballo (2007).

latter and transfer its responsibilities to Proexport, expecting to capitalize on potential synergies between FDI and export promotion activities.

Finally, while there maybe some market failures that justify Bancoldex offers of export insurance and currency hedges to exporters, it seems hard to justify the recent liberal use of budget subsidies for hedges in favor of some sectors, as mentioned in Chapter II.

Table 7 summarizes an estimate of the equivalent value of several export promotion instruments from 1967 to 1992 (except for ETZ's and Proexport services), as a percentage of total non-traditional exports value. The total equivalent subsidy was above 20% from 1967 to 1974 (peaking at about 27% in 1972 and 1973), mostly due to the high CAT average rates, and to the equivalent subsidy of "reintegro anticipado", a sort of exchange rate subsidy that was in effect until 1975. Between 1975 and 1981 CAT rates were drastically reduced to an average ranging from 4.5% to 7.5%. The total equivalent subsidy fell from 1975 to 1977 (to a range between 10% and 13%), rose again to around 15% from 1978 to 1981, due to a rapid increase in subsidized credit, and increased once more to a range of 24%-27% between 1983 and 1985 (years in which Colombia was close to a currency crisis) as CAT rates were augmented to averages of 16% in 1984 and 18% in 1985<sup>51</sup>. From 1986 onwards the equivalent total subsidy went down gradually, reaching 7.9% in 1992 (and was kept below this level during most of that decade) as both CAT rates and subsidized credit receded. Plan Vallejo's effective subsidy was around an equivalent 1.5% to 2.5% for most of the period, except 1986-1989 when tariffs were considerably increased as one of the measures to contain the currency crisis, and came down again in 1991. Although we do not have similar estimates for implicit subsidies of these export promotion instruments from 1992 onwards, we do know that they have been lower than the estimated 1992 value. Indeed, as mentioned above, CERT rates were kept low during the nineties and then virtually eliminated by 2003, to be temporarily revived at a 4% value for some exports in 2007; Plan Vallejo implicit subsidies, however, show an increasing tendency after 1993; and the use of public funds or Central Bank credit to extend subsidized credit to exporters was eliminated since 1991. In what follows we present the evolution of coverage rates of export promotion instruments.

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<sup>51</sup> In 1984 rates of 30% and 20% were in effect for 259 export products and for 108 products, including most of agricultural exports, respectively.

**Table 7: Export incentives, 1967-1992**

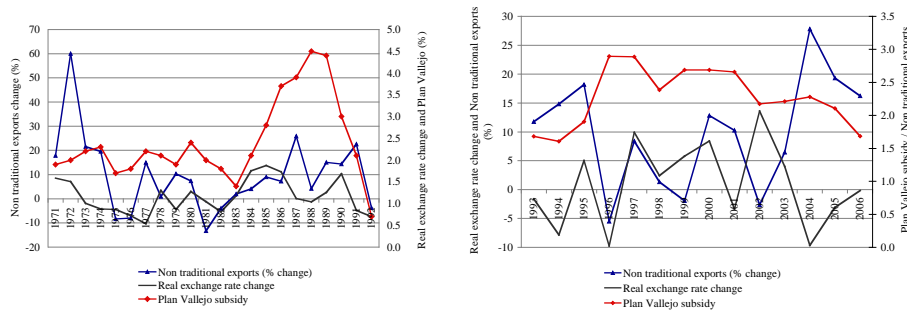
year	CAT	Plan Vallejo	Proexpo credit	Exchange rate subsidy	Total	REER	REER for non-traditional exports
1967	15.2	1.9	-	6	23.1	76.1	82.9
1968	15.1	2.2	-	3.9	21.2	84	90.1
1969	16.5	1.3	-	1.4	19.1	85.7	90.3
1970	15.7	2.5	-	1.6	19.8	90.3	95.7
1971	16.3	1.9	-	4.3	22.6	95.8	103.9
1972	18.4	2	0.5	6	26.8	99.2	111.3
1973	21.5	2.2	1.1	1.9	26.6	97.5	109.2
1974	19.9	2.3	1.3	0	23.5	95.7	104.6
1975	7.4	1.7	2	1.9	13	100	100
1976	5.8	1.8	1.8	0.8	10.2	95.4	93
1977	4.4	2.2	3.4	-	9.9	85.7	83.4
1978	6.3	2.1	5.7	-	14.1	85.5	86.3
1979	7.2	1.9	5	-	14.1	81.7	82.5
1980	6.9	2.4	5.7	-	15.1	83.5	85
1981	7.6	2	6.8	-	16.4	81.6	84
1982	8.8	1.8	8.2	-	18.8	75.6	79.5
1983	11.9	1.4	10.3	-	23.7	73.6	80.5
1984	15.8	2.1	9.2	-	27	79.9	89.8
1985	18.2	2.8	5.4	-	26.4	91.4	102.2
1986	11.6	3.7	3.1	-	18.4	108.5	113.6
1987	8.6	3.9	3.1	-	15.6	111.2	113.7
1988	8	4.5	1.6	-	14.1	111.3	112.3
1989	8.3	4.4	2.1	-	14.8	113.5	115.3
1990	8.2	3	1.5	-	12.8	127.4	127.2
1991	7.8	2.1	0.7	-	10.6	123.7	121.1
1992	6.2	0.7	1.1	-	7.9	117.5	112.2

Source: Ocampo and Villar (1993)

**b. Evolution of individual instruments**

Figure 5 shows an estimate of PV equivalent effective compensatory subsidy for the periods 1971-1992 and 1993-2006, plotted against the growth of non-traditional exports. The value of the effective subsidy appears to have been approximately constant from 1971 to 1983; increased substantially after that date as tariffs were raised to help cope with the currency crisis of 1983; and dropped significantly from 1991 onwards as tariffs were sharply reduced during trade opening.

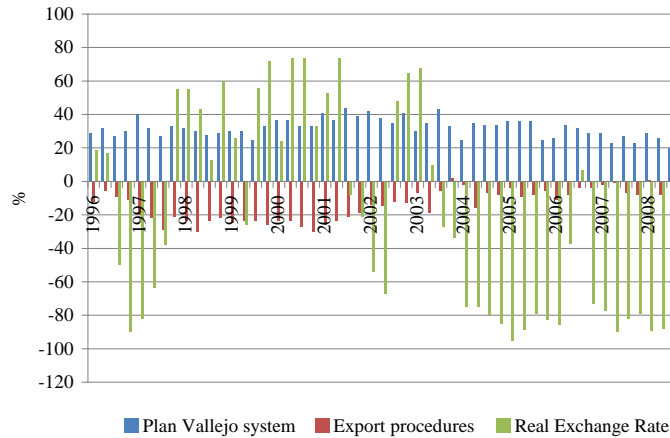
**Figure 5: Plan Vallejo compensatory subsidy and non-traditional exports growth**



Source: Urrutia et al. (2001) for 1971-1992, DIAN and calculations from the authors for 1993-2006. Plan Vallejo data for the 1993-2006 period includes all imports entering under Plan Vallejo exemptions.

In spite of the fact that there is a VAT rebate for exports since 1974 and tariffs on manufactured inputs and capital goods have been relatively low since, around 20 to 30% of exporters still give considerable value to the Plan Vallejo drawback system (see Figure 6). Presumably this is due not just to the exemption of tariffs on inputs and, specially, on capital goods, but to the simpler import procedures under PV and the financial costs incurred outside the PV (VAT rebates on inputs and capital goods are recovered with a delay).

**Figure 6: Most favorable and unfavorable policies for exports, Fedesarrollo EOS**



Source: Fedesarrollo EOS and calculations from the authors: difference between percentage of favorable and unfavorable answers

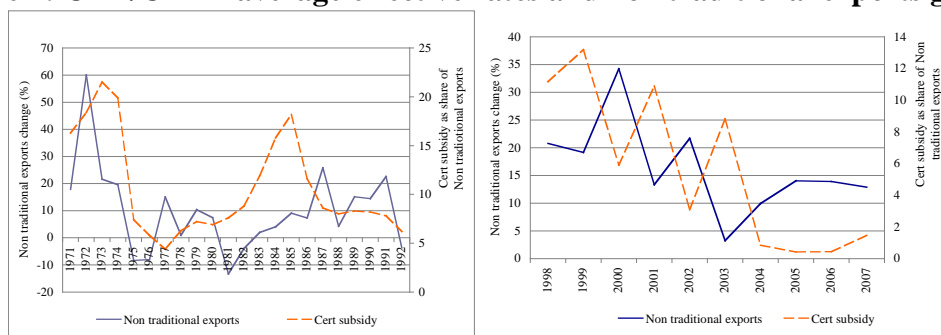
Plan Vallejo has been found, though, to be accessible mostly to large permanent exporters, as transaction costs related to registration and approvals are non-negligible. Further, they appear to have been relatively concentrated in capital-intensive sectors such as mining, chemicals and graphic arts, a few agricultural products, such as flowers, banana, and sugar<sup>52</sup>

Figure 7 shows the evolution of CAT/CERT average effective rates and non-traditional exports' growth for two periods (1971/1991 and 1997/2007), collected from different sources. It suggests a positive relation between CAT/CERT subsidies and growth rates of non-traditional exports with a lag, which is further examined below. As with PV, there has been some concentration of CAT/CERT subsidies, benefiting sectors such as sugar, printing, fertilizer and apparel sectors in latter years, though with significant changes overtime<sup>53</sup>.

<sup>52</sup> Garay (1998), Urrutia et al (2001). Estimates available on demand.

<sup>53</sup> Estimates available on demand.

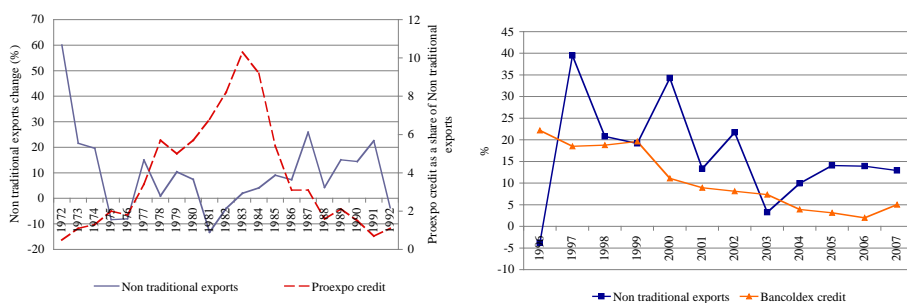
**Figure 7: CAT/CERT average effective rates and non traditional exports growth**



Source: Urrutia et al ( 2001 ) for 1971-1991, Ministry of Industry and Trade and author calculations for 1998-2007.

Figure 8 shows the evolution of Bancoldex credits to exporters. The left hand panel presents an estimate of effective Proexpo credit subsidy, while the right hand panel presents just credit versus value of non-traditional exports. Variations in credit subsidy and coverage seem to anticipate export growth rates. There appears to be some concentration, though not much, on sectors such as textiles and apparel, chemicals, printing and food products<sup>54</sup>.

**Figure 8: Official credit to exports and non-traditional exports growth**



Source: Urrutia et al (2001) for 1972-1992, Bancoldex and calculations from the authors for 1996-2007.

As for Free Trade Zones, earlier ones were established basically as free import zones under Law 105 of 1958, mostly for holding inventories of imported goods that would pay tariffs when retired from the FTZ for use or sale<sup>55</sup>. In 1985 (Law 109) established a modernized Free Trade Zones regime for Exports. Six additional new FTZs were created under this law until 2005<sup>56</sup>. FTZ investment, exports and employment grew, however, rather slowly (Figure 9). By 2004 exports from FTZ were just 4.1% of total exports as compared to figures from around 50% (Costa Rica, Mexico), 60% (Honduras, El Salvador), 80% (Nicaragua, Dominican Republic) and higher (Puerto Rico, Malaysia, Chech Republic, China) in countries that have relied extensively in such an instrument for export promotion<sup>57</sup>.

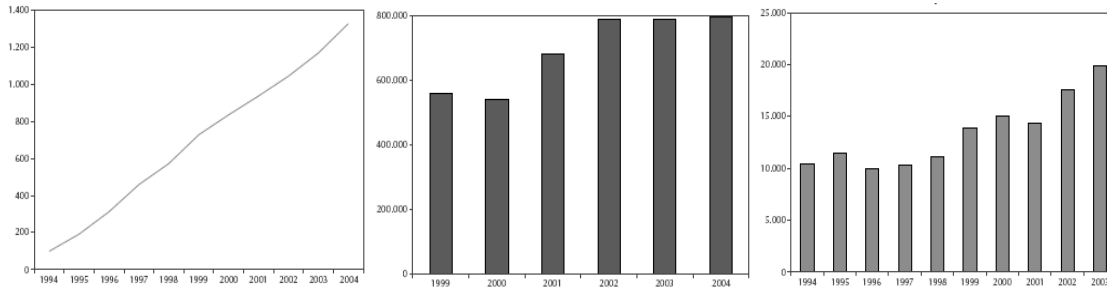
<sup>54</sup> Estimates available on demand.

<sup>55</sup> Barranquilla (1958); Palmaseca, Valle (1970), Cúcuta (1972), Cartagena (1973) and Santa Marta (1974)

<sup>56</sup> Rionegro (Antioquia), Candelaria (Cartagena), Bogotá and Pacífico (Palмира) in 1993, Armenia (Coffee Zone) in 1996 and Sopo (near Bogotá) in 2000.

<sup>57</sup> Singa, J.P. (2007).

**Figure 9: Investment, Exports and Employment in Export Free Trade Zones**  
(as % of corresponding figures in manufacturing)



Source: Economía y Política. No.34. Fedesarrollo. Bogotá. 2008

In order to comply with WTO requirements, Law 1004 of 2005 applied a reduced 15% tax rate (as compared to the statutory tax rate of 33%) for all firms established in existing or new FTZs, whether dedicated to exports or to the local market, as long as they would comply with minimum investment and/or employment requirements to be established by a regulatory decree. Two successive decrees in 2007 established differential requirements for old and new firms located in so called “permanent zones”, agro-industrial zones and port zones, or for new or expanding individual firms located anywhere. As discussed in Chapter II, the new regime amounts to a significant tax reduction for all sorts of large firms that qualify in any one of these categories, creating major distortions vis a vis existing competing firms. By September 2008, 37 new FTZs had been approved by a special committee set up for this purpose (with a total investment of 4,891 million dollars)<sup>58</sup>.

As for Proexport services, we classify them in three groups, following common practice in the literature<sup>59</sup>: (1) Counseling and Information, which consist of a wide variety of services including training on the export process, provision of information on business opportunities for Colombian products in specific target markets and on transport logistics; and support in the formulation and execution of export plans; (2) Trade Agenda, which refers to the arrangement of appointments with potential customers through the commercial offices of the agency and support to commercial management, and (3) Trade fairs, shows, and missions, outgoing and incoming, organized and co-financed by Proexport. On average Proexport has assisted 2500 firms per year, which represent around 25% of exporting firms<sup>60</sup> (see Table 8). The average exporting firm exports on average 5 products to between 2 and 3 countries.. Firms with larger total exports, exporting to more countries and/or more products typically use more Proexport services.

<sup>58</sup> -27 of which had already been ratified by the Tax Authority-, 7 more requests were under consideration, and 3 had been rejected

<sup>59</sup> Volpe and Carballo (2008).

<sup>60</sup> Volpe and Carballo (2008).



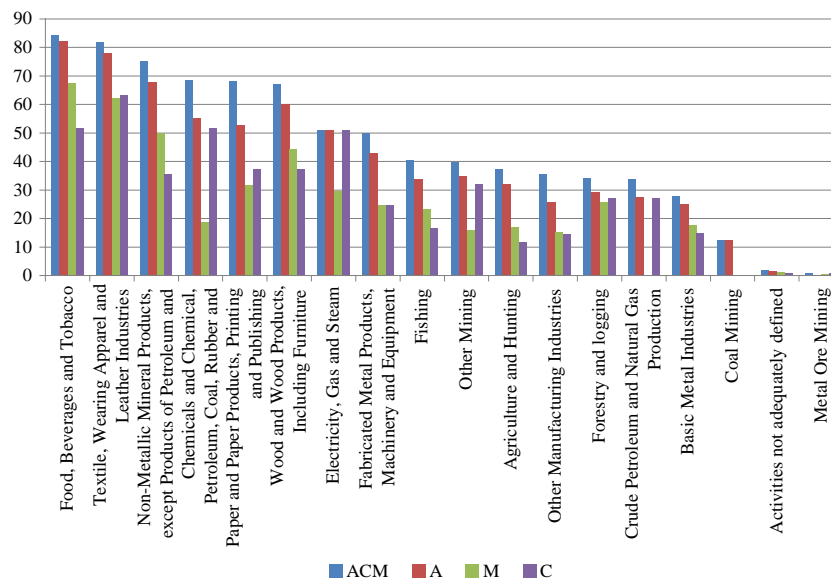
**Table 8: Characterization of exporting firms and Proexport coverage**

Year	Total exports	Number of countries	Number of products	Number of exporting firms	Number of exporters served by PROEXPORT
2003	13,100	182	4,516	9,881	2,933
2004	16,700	192	4,639	11,189	2,109
2005	21,200	185	4,688	11,695	2,690
2006	24,400	197	4,679	11,399	2,752

Source: Volpe and Carballo. (2008). Exports in USD million.

Use of Proexport services varies widely by sector: more than 50% of exporting firms in most manufacturing sectors (and up to nearly 80% in the food and beverages and textile and clothing industries) use some Proexport services, while these figures are substantially lower for natural resource based exporting firms (see Figure 10).

**Figure 10: Proexport services, participation by sector 2006**



Source: Ministry of Industry and Trade and calculations by the authors. Note: ACM refers to trade agenda, trade missions and counseling; A refers to trade agenda; C refers to counseling; and M refers to trade missions.

### c. Use and perception of adequacy of instruments: results of Fedesarrollo EOS

Table 9 of the special EOS module undertaken for this study indicates an increasing percentage of firms report having used Bancoldex credit lines (from 48% before the 90's to 64% after 2000) and Proexport services (from an average of 37% before the 90's to 44% after 2000). There was also a modest increase in the use of Plan Vallejo (from 48% to 52%). The use of other export promotion instruments has been more stable overtime. As expected, small firms have had less access to all instruments.

**Table 9: Use of instruments by firms in the sample**

Policy instrument	Before 1990	1990 to 2000	2000 to present
Bancoldex credit lines	48	54	64
Export insurance or other insurance with government support	31	30	30
Exchange-rate hedging with government support	25	23	26
Cat or Cert.	46	54	45
Free export zones	31	36	35
Plan Vallejo	48	53	52
Market information	34	38	43
Fairs and events	41	43	48
Contact with potential clients	37	36	41
ATPA, ATPDEA or other special tariff agreement	31	35	36

Source: Fedesarrollo EOS, October 2008.

Table 10 summarizes the opinions of firms about the adequacy of these instruments over time<sup>61</sup>. Contemporary opinions favor Plan Vallejo over all other instruments. CERT and exchange-rate hedges get the lowest marks. Opinion trends over time indicate improvements in perceptions about the adequacy of most instruments: highly significant in the case of Plan Vallejo; significant in the case of Proexport services, FTZ's and preferential trade agreements; and more modest in the case of export credit. On the contrary, perceptions about the adequacy of CERT fall sharply over time<sup>62</sup>

There are some differences of opinion by size of firm. Large firms rate Bancoldex export credit and Proexport services significantly more favorably (specially market information and trade agenda services) than medium size and small firms. The same is true, though less significantly, for Plan Vallejo and ATPDEA usefulness. These differences of opinion probably reflect differences in access. On the contrary, small firms rate CERT subsidies significantly higher than large or medium size firms, probably because these subsidies make a more meaningful difference for those small firms that receive them (see Appendix 1).

**Table 10: % firms rating instruments as inadequate**

Policy instrument	Before 1990	1990 to 2000	2000 to present
Bancoldex credit lines	24	11	16
Export insurance or other insurance with government support	69	48	38
Exchange-rate hedging with government support	65	61	54
Cat or Cert.	16	21	56
Free export zones	41	32	23
Plan Vallejo	24	10	9
Market information	53	32	25
Fairs and events	53	36	31
Contact with potential clients	68	47	38
ATPA, ATPDEA or other special tariff agreement	45	26	22

Source: Fedesarrollo EOS, October 2008.

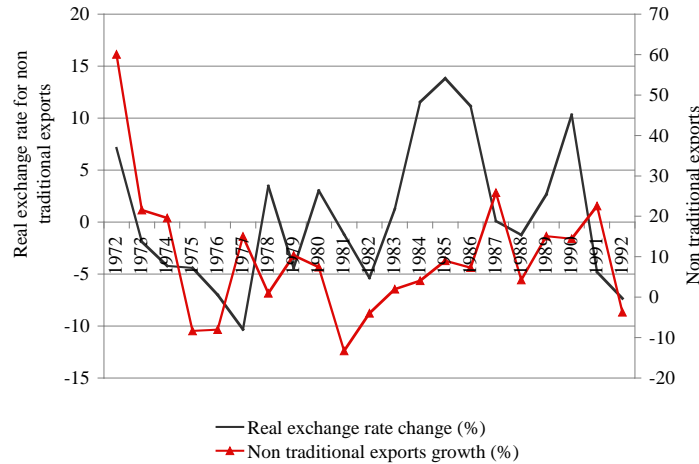
<sup>61</sup> Figure 29 tabulate responses only by firms that answered the question for all three periods. Table 3 in Appendix 1 show responses by all firms that gave assessments for each individual period. Differences are, in general, not large.

<sup>62</sup> Perceptions of adequacy may be affected by increases or decreases (as in the case of CERT) of the amount of subsidy per beneficiary.

#### d. Estimates of impact

Growth rates of non-traditional exports followed closely the evolution of the real exchange rate, including the equivalent subsidies of different export promotion instruments, as shown Figure 11 for the period 1967 to 1993.

**Figure 11: Real exchange rate change and non-traditional exports growth**



Source: Ocampo and Villar (1993)

This impressionistic evidence has been confirmed by several previous econometric studies<sup>63</sup>, including controls such as the degree of capacity utilization and/or indicators of external demand. Such results suggest a positive impact of export subsidies. However, most of the variation of the effective real exchange rate was due to variations in the real exchange rate and not on the subsidies themselves. Some of these studies also found important differences in the response of exports to the effective real exchange rate in different sectors. Typically, elasticities were lower or non significant in the case of capital-intensive sectors.

We performed similar exercises on more recent data for the manufacturing sector. The model used was an ISIC 3-digit sector level fixed effects regression explaining export growth. Export promotion policies were used as explanatory variables together with contemporary world imports (as an indicator of external demand), real devaluation and GDP growth per year. Results are shown in Table 11 below. Export promotion policy variables enter the estimation as a share of exports<sup>64</sup>. The first regression also includes tariffs and tax exemption rates among the explanatory variables. All policy variables enter the regressions with a lag. Together with the fixed effects, this should mitigate biases from potential endogeneity of these variables.

<sup>63</sup> See, for example, (Villar (1984), Villar (1992), Ocampo y Villar (1993), Steiner y Wüllner (1994), Mesa, Cock y Jiménez (1999), Echavarría (1980), Botero y Meisel (1988), Alonso (1993), Quintero (1997), Roberts and Tybout (1997), Urrutia et al (2001).

<sup>64</sup> Bancoldex credit and Cert subsidies correspond to amounts effectively received by each sector. Plan Vallejo refers to all imports entering under Plan Vallejo exemptions under the corresponding ISIC code. While it is often true that inputs belong in the same ISIC category than the final products they are used to produce, the measure as it is may be reflecting exemptions on inputs used by other exporting sectors (competition in the domestic market) and/or missing exempt input imports corresponding to the ISIC sectors under consideration. The value of exempt imports corresponding to each ISIC 3 digit sector, regardless of the ISIC code of the imported inputs, which would be a more accurate measure of subsidies under Plan Vallejo, has been requested to DIAN but is not yet available.

Coefficients on the export promotion policy variables are significant, except for CERT, and have the expected sign, indicating that Plan Vallejo and export credit did have a positive effect on export growth in the period under examination, after controlling for other determinants of sector level export growth. Usage of Proexport services was also included, but results are swept away by the sector-level fixed effects because of little variance over time<sup>65</sup>. The coefficient on tariffs is negative and significant indicating that protection does not seem to contribute to export growth, and the coefficient on the tax exemption rate is found to be not significantly different to zero. We explored the effect of interactions, but didn't find statistically significant effects of these variables.

**Table 11: Determinants of sector level export growth, 1996-2006**  
**Fixed effects regression**

Dependent variable: annual export growth (%)	(1)	(2)
Plan Vallejo / Exports (t-1)	0.33 (0.176)*	0.38 (0.151)**
Bancoldex credit / Exports (t-1)	0.15 (0.704)*	0.15 (0.060)**
CERT / Exports (t-1)	3.07 (5.459)	2.05 (4.387)
Tariff (t-1)	-7.77 (3.937)*	
Tax exemption rate (t-1)	-0.60 (0.777)	
World imports (log)	0.18 (0.098)*	0.16 (0.092)*
Real exchange rate change (t-1)	2.50 (0.369)***	2.34 (0.385)***
Real exchange rate change (t-2)	0.96 (0.362)**	0.88 (0.374)**
Real GDP growth	2.34 (0.953)**	2.25 (1.014)**
Constant	-5.32 (3.376)	-6.27 (3.431)*
Number of observations	233	308
R <sup>2</sup>	0.23	0.23

Note: Robust standard errors, clustered by year. ISIC 3-digit sector fixed effects. \*\*\* 1% significant, \*\* 5% significant and \* 10% significant.

Some studies have attempted to separate long-term and short-term effects of the real exchange rate and external demand<sup>66</sup>. They have found strong evidence of long-term effects and weak or no evidence of short-term effects and volatility. These studies do not include the equivalent subsidy of the different export promotion instruments, though. However, their results could lead to the hypothesis that stable instruments (such as Plan Vallejo or export credit) could have been more effective than those whose subsidy rate

<sup>65</sup> We only have Proexport services data available for three years.

<sup>66</sup> Reinhart (1994), Caballero y Corbo (1989), Arize et al (1999), Misas, Ramírez and Silva (2001)

has varied significantly overtime (like in the case of the CAT/CERT), consistent with our results.

A recent study<sup>67</sup> estimated the effects of Proexport services, by using multiple treatment matching techniques on export data for all exporting firms using different combinations of these services or none at all. They found that firms that do not use Proexport services tend to have a weaker export performance than those that use any Proexport service, both in terms of increases in number of markets and products exported<sup>68</sup>. They also found that those that used all Proexport services showed better export performance than those that used only one type of service. Estimated impact was lower for those that only attended fairs or missions but did not use trade agenda or information services.

In contrast to the above mentioned results, a rather negative assessment of the role of export promotion policies on the development of new export sectors comes from a recent study on the determinants of success in the emergence of four specific groups of products: cut flowers, underwear and swimwear, sanitary products and confectionery products<sup>69</sup>. The study concluded that “the export discoveries” studied emerged exclusively from the private initiative of entrepreneurs who bore all the costs and assumed all the risks of the investments. Information regarding these potential new exports in none of the cases came from public information or strategic alliances between the government and the entrepreneurs. Neither was there a deliberate policy to support the sectors or products where discoveries occurred. Exporters recognized having benefited from policies specifically designed to promote non-traditional exports<sup>70</sup>, but deemed the scope of their impact as limited. Plan Vallejo had the greatest effect since it allowed producers to overcome import restrictions. In some cases Proexpo credits were useful, as were some other promotional measures, such as participation in international fairs, dissemination of information about foreign markets, and organization of commercial missions to different countries to bring sellers and buyers together. But exporters considered that the support of the government in helping investors to solve coordination problems or to deal with market failures was neither well organized nor systematic. The main obstacles faced by pioneers were related to transportation, infrastructure, export/import procedures (registration), phytosanitary issues (specially in the cases of flowers, mangos, and confectionery goods), and entry barriers or protectionist measures faced in foreign markets (e.g. dumping cases and phytosanitary barriers). Other common uncertainties were those related to the level of knowledge of foreign markets, competitors, the size and characteristics of the demand, and consumers’ needs. The government was helpful only in specific cases, and only sporadically with respect to these problems. In general terms, these obstacles were solved through

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<sup>67</sup> Volpe and Carballo (2008).

<sup>68</sup> Firms that used all services tended to have a rate of growth of exports 27% higher (13% in number of countries and 12% in number of products exported) than for similar firms that didn’t use any Proexport service.

<sup>69</sup> Arbeláez, Meléndez, and León (2007).

<sup>70</sup> They also acknowledged the contribution of a positive macro and trade policy environment.

coordination among pioneers (as in the case of flowers), or individually (as in the case of manufacturing export discoveries)<sup>71</sup>.

#### **e. Conclusion**

Colombia has been relatively successful in diversifying its exports and obtaining high rates of non-traditional exports growth since 1967. But, how much of these achievements can be attributed to export promotion instruments or to the overall macro environment, including real exchange rate levels and volatility? And how adequate has been the design of export promotion instruments? It would appear from previous studies that there was an important positive combined effect of real exchange management and export subsidies from 1967 up to 1991. It is difficult, though to separate these effects.

From 1991 onwards new evidence from this study suggest a positive and significant effect of Plan Vallejo (the duty drawback system) and export credit, in spite of the higher REER volatility environment and the sharp reduction of the magnitude of subsidies from there on. Firms assessments also suggest that Plan Vallejo continues to play an important role, in spite of tariff reductions, specially for capital intensive sectors and sectors intensive in imported inputs for which the combined effect of duties and delays in VAT rebates could be substantial. It thus appears to be an effective “second-best” policy, given the permanence of tariffs and delays in VAT rebates.

Also, firms report increasing use and satisfaction with Proexport services, especially with trade agenda and market information services, which apparently respond to important perceived market failures. A recent study estimated a significant effect of these services in increasing the number of markets and products exported. However, it appears that such services or other promotion instruments have played a minor role in the successful development of new export sectors, as indicated from available studies for four cases.

Subsidies, like CAT/CERT or initial subsidized export credit through Proexpo probably had justification in epochs of high tariffs (as not all firms could access Plan Vallejo due to high transaction costs) and reduced access to credit. As these costs and constraints have eased (see next section on access to credit by SMEs), there appeared to be little justification for keeping outright subsidies and indeed they have tended to disappear, with temporary exceptions as the recent selective compensation for real exchange appreciation.

It is more difficult to assess the effects of FTZs. When they were Export Promotion Zones they had much lower importance, in terms of investment, exports or employment, than successful uses of such instruments elsewhere. Now that they have been converted to general purpose free trade zones and their use is exploding, it may be that they facilitate some new export initiatives, but this is not their exclusive objective anymore so they can not be classified as “export promotion interventions”, but rather as a way to

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<sup>71</sup> The study notes that foreign partners were significantly more positive in their assessment of Government contributions than local producers.

grant tax incentives to large investment projects whether intended for exports or for the domestic market.

Finally, there are no estimates of the effects of exchange rate hedging or export insurance supports. There maybe some market failures in these markets, but they don't seem to justify the liberal use of subsidies recently given to currency hedges to some sectors.

## **2. Training**

### **a. Rationale and evolution**

Externalities associated with training and skills acquisition have been recognized for long. On the one hand, individual workers can not appropriate the full social benefits of investments in their own skills, as long as there are agglomeration benefits: a more skilled worker will not only be more productive but increase the productivity of others with whom he interacts, in his own firm and elsewhere. Thus, left to themselves individuals will underinvest in training. Neither can firms investing in training of their workforce appropriate fully the resulting benefits, as a consequence of labor mobility. Other firms in the same or other sectors, in the national economy or elsewhere, will benefit from such an investment. Hence a classic market failure develops: left by themselves, firms and individuals will invest sub-optimally in training, in the aggregate. These arguments have led many countries to either subsidize private training or, more often in Latin America, to create public training institutes financed out of taxes<sup>72</sup>.

Colombia created SENA -the National Institute for Learning-, a public agency devoted to technical training, financed by a compulsory "contribution" (a tax) on wages in 1957. SENA's board has been presided by the Minister of Labor (now Social Protection) and is composed by representatives of Government, employers and unions. Although there was a general consensus on the positive contributions of SENA in its initial years of activity, since the early nineties, with the increased competitive pressures originating in trade opening, there have been strong critiques about the inefficiency and inadequacy of many SENA programs. Consequently there have been several attempts at major reform, mostly directed towards establishing a competitive market for training services, which have faced significant union and political opposition and resulted in marginal or incremental adjustments (in 1990 and 1994), providing some limited room for competition of training services financed through the wage tax. A couple of recent studies have attempted to evaluate the effectiveness of SENA<sup>73</sup> and found large inefficiencies (significantly larger costs than private sector providers); lower impact of SENA programs, as compared to private service, on future wages and firms productivity; and a poor opinion by firms on the adequacy and quality of programs.

Further, firms and trainees that pay for the services were choosing SENA in less than 16% of the cases and even those that get free access to SENA's services chose it only in

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<sup>72</sup> See Burki, Perry, Gill, Guasch and Maloney (2002).

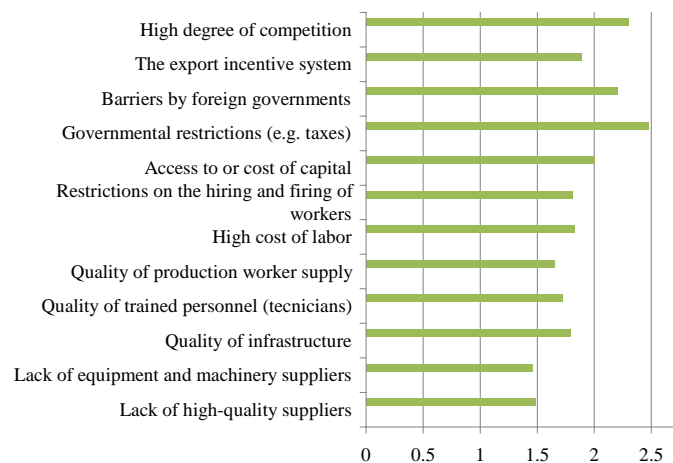
<sup>73</sup> Gaviria and Nuñez (2003); Barrera and Corchuelo (2004).

50% of the cases. Thus, in spite of its huge budget, the Institute was effectively supplying only around 20% of training services (17% by other public institutes, 38% by private providers, and 25% firm-based).

### b. Firms assessments on skills availability

To start with, most firms do not see skills availability as a binding constraint for growth or competitiveness. A Fedesarrollo special survey carried on in 2003 indicated that only around 13% of firms considered that the “quality of the supply of production workers” was a “major obstacle” affecting the ability to compete and 28% more ranked this factor as a “minor obstacle” for competitiveness. The corresponding figures for the “quality of trained personnel (technicians)” were just 15% and 35%. Comparatively, firms ranked taxes, access to or cost of capital and labor costs and labor market rigidity as significantly more serious obstacles to compete (see Figure 12). This notwithstanding, 61.7% of firms answered in the same survey that the quality of the supply of trained personnel was low. Corresponding figures were 47.5% for large firms and 72.1% for small firms, indicating that the latter have more difficulty in obtaining adequately trained workers when they need them.

**Figure 12: Weighted competition obstacle index**



Source: Fedesarrollo SENA survey, 2003.

In the same vein, only 7% of firms responding to the special module of the Fedesarrollo Survey carried out for this study ranked the lack of adequately qualified human capital (either with basic or specialized technical skills or professional training) as a major factor limiting firm expansion. To compare with, the corresponding figure for “high cost of financing” was 15%. There were large differences, though, among large and small firms: the latter quoted the lack of adequately qualified workers as one of the five main factors limiting firm expansion in 52% of the cases with respect to basic technical skills, 35.4% to professional skills and 18.8% to specialized technical skills. The corresponding figures for large firms were just 9.7%, 5.5% and 5.9% (see Table 12).



**Table 12: Limitations for productive investment**

Restrictions to productive investment	National total		Large firms		Medium firms		Small firms	
	I <sub>i</sub>	I <sub>i-5i</sub>	I <sub>i</sub>	I <sub>i-5i</sub>	I <sub>i</sub>	I <sub>i-5i</sub>	I <sub>i</sub>	I <sub>i-5i</sub>
High credit cost	20.2	15	18.6	14	20.2	15	26.7	22
Lack of collateral to access credit	2.4	2	2.1	2	2.1	2	4.4	3.0
Lack of human capital adequately qualified at professional level	2.2	6.7	1.7	5.1	3.3	5.0	2.5	35.1
Lack of human capital adequately qualified at technical specialized level	2.9	8.3	2.2	5.5	2.2	7.4	7.4	30.2
Lack of human capital adequately qualified at technical basic level	2.2	9.6	2.2	8.8	1.1	8.7	4.9	15.9

Source: Fedesarrollo EOS, October 2008

Interestingly, in our interviews with the private competitiveness council, managers of highly innovative firms quoted the low supply of qualified specialized professional as the factor limiting their potential to expand exports in frontier sectors. A similar opinion came from ACOPI, the association of small industrial enterprises -the other extreme- for whom low skills of micro and small entrepreneurs themselves are the main limiting factor for competitiveness. This opinion coincides with the EOS' result and resonates with the findings of recent studies on informality that have concluded that in most cases micro firms remain informal because of their low productivity potential, which in turn is a reflection of low skills of micro entrepreneurs. In other words, lack of adequate skills seems to be a severely limiting factor at the wide bottom (micro and small firms) and at the narrow top (the leading technological firms), but not for the majority of medium size and large firms.

### c. Use of training providers

A special Fedesarrollo 2003 SENA special survey found that around 70% of firms sponsored SENA apprentices, 60% used training services (35% used **specialized** training services) and 52% hired SENA graduates. Use of some new SENA services, such as technological services were, however, quite low (around 12%) Differences by size of firm remained large. Nearly 90% of large firms still sponsored apprentices, 76% used training services (50% specialized training services) and 63% hired SENA graduates, while the corresponding numbers for small firms were 48%, 44% (25% specialized) and 48%. Use of technological services was equally low by all firm sizes.

The EOS module designed for this study shows lower figures than the 2003 Survey. Around 34% of firms reported using SENA general training services and 33% specialized training services. Similarly, 37% reported using other public training services, 30% private training services and 34% reported carrying on in house on-the-job training. Small firms used less private training services and more specific training through SENA than large and medium firms. There appear to be no major differences by size in the use of other public training services or on in house training. From the answers it appears that firms have reduced the use of all types of external training services overtime, while keeping the same level of on the job training efforts.

**Table 13: Use of training programs**

Policy instrument	Total	Large	Medium	Small
Basic training through SENA	34	33	35	36
Specific training through SENA	33	36	23	45
Training through other government owned institute	37	36	42	33
Training through private institute	30	30	33	25
Training within the firm	34	36	30	40

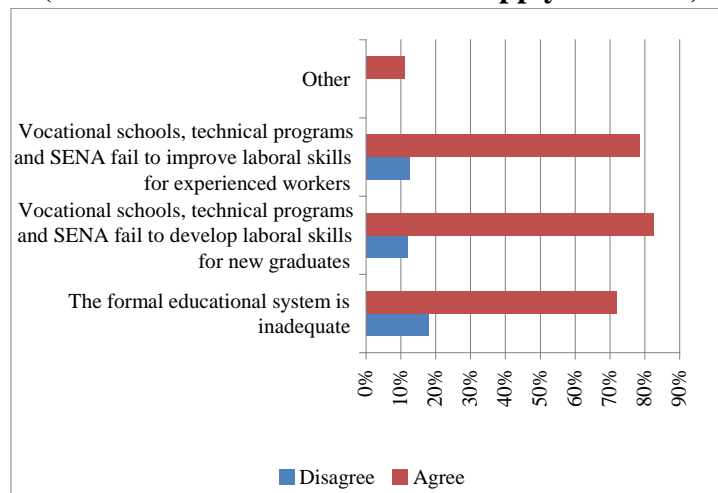
Source: EOS Fedesarrollo Survey. 2008.

Workers with higher education (tertiary) prefer private training services. The probability of attending private training services also increases with the level of formality and with the education profile of parents (see Barrera and Corchuelo, 2004).

**d. Assessment of training providers**

Firms are generally very critical of the quality of training services, especially of those offered by SENA. To begin with, nearly 80% of those that answered that there was a low supply of skilled workers in the special 2003 Survey (61% of the sample), stated that SENA and other technical programs and technical schools failed to improve labor skills for experienced workers and more than 80% considered that they also failed to develop labor skills for new graduates (see QuitarFigure 13<sup>74</sup>).

**QuitarFigure 13: Reasons for "low" supply of trained workers  
(For the 61% that consider the supply to be low)**



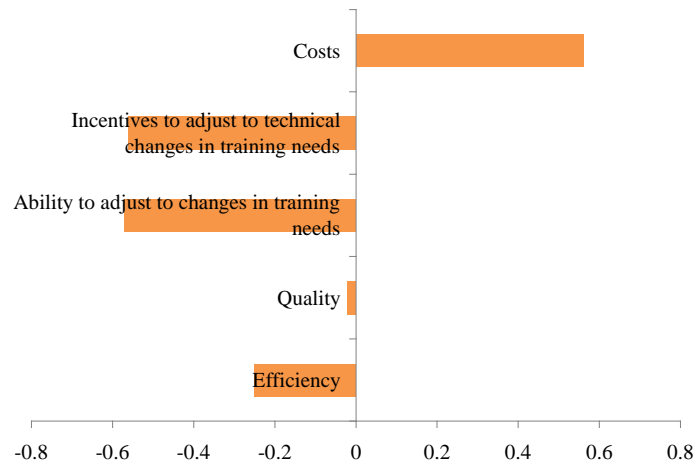
Source: Fedesarrollo SENA Survey, 2003.

When comparing SENA to other providers, a large majority of firms answered that SENA had less incentives and ability to adjust to technical changes in training needs and higher costs. A majority also felt that efficiency and quality was lower (see Figure 15). Small firms tended to have a more positive perception of quality than medium or large firms (a simple majority of small firms ranked SENA quality as higher than competitors)

<sup>74</sup> Fedesarrollo, SENA Survey, 2003

but similar perceptions of poor incentives and ability to adjust to changing needs and higher costs<sup>75</sup>.

**Figure 14: SENA versus others providers of training: Index**



Source: Fedesarrollo SENA Survey (2003)

The EOS module designed for this study indicates that perceptions about the adequacy of SENA programs have improved overtime. While 38% of firms thought that general training in SENA was deficient before the nineties, only 24% considered it deficient in the present decade (see Table 14). The corresponding figures for specialized training are 45% and 27%. Ratings are better for private providers and in house training (only 18% and 15%, respectively, thought that their services were deficient) and worst for other public provider services (54% considered them deficient), for which there is little perception of improvement overtime. Contrary to previous surveys results, small firms rate SENA services worst than large firms. Similar differences are found in their ratings of private training services, indicating that small firms have less access than large firms to high quality private services, though they still rank them as more adequate than SENA's.

**Table 14: % firms rating instruments as inadequate**

Policy instrument	Before	1990 to	2000 to
	1990	2000	present
Basic training through SENA	38	24	24
Specific training through SENA	45	28	27
Training through other government owned institute	58	54	54
Training through private institute	29	27	18
Training within the firm	27	16	15

Source: Fedesarrollo EOS, October 2008.

When asked about desired changes in SENA in the 2003 special SENA Survey, about 50% of firms responding indicated that they would prefer SENA to administer the training budget (financed out of wage taxes) and let employers and trainees to choose

<sup>75</sup> Fedesarrollo (2004).

providers and 43% preferred to keep SENA virtual monopoly (“keep SENA as it is”) but improve programs and efficiency. Only 2% thought that no major changes were needed. A large fraction of firms also considered that SENA required significant improvements in attention to firms with needs for technical improvements (62%), poor workers (59%), unemployed workers (58%) and SMEs (57%), as well as on selection of young students (43%), worker trainees (35%) and firms (35%). Less than 10% of firms answered there was little need for change in most of these dimensions.

### **e. Impact**

Gaviria et al (2003), controlling for selection biases, found, somewhat surprisingly, a significantly negative effect on wages and employment probability of attending SENA versus equivalent workers that did not undergo training. They also found negative, though lower, effects of training in other public institutions and high and significantly positive effects on both wages and probability of employment of attending private training services.

Barrera and Corchuelo (2004), in a more detailed exercise, arrived at a just slightly different conclusion. According to them, SENA training seems to yield modest positive effects on wages for male and formal workers, as compared to wages of similar workers with no training. However, if the comparison group is other trainees, attending SENA yields negative results. Further, SENA returns seem to be a negative function of education levels and a negative function of years of experience.

The study by Barrera and Corchuelo interestingly replicates some previous studies, using their data and more updated econometric techniques to deal with selection biases. They consistently find modest or negative results for SENA training, except for the earlier period (around 30 years ago). Further, SENA trainees come today from the lower tail of the ability distribution, while this does not seem the case thirty years ago. The authors hypothesize that these changes may be explained by the fact that SENA was initially not just a relatively effective monopoly provider, but the only option for income constrained workers, while the difficulties in SENA to adapt to changing technologies and needs, more competition from other providers and higher incomes and financial market access, has increasingly driven SENA as a “last resort” and rather obsolete, inefficient and ineffectual training provider.

### **f. Conclusion**

All results presented in this section suggest the urgent need for facilitating increased competition in training services and doing away with SENA’s virtual monopoly in the use of earmarked wage taxes. These in addition have been found to be an important incentive for informality<sup>76</sup>. The political economy question that remains unanswered, though, is why several reform initiatives in this direction have failed to succeed and changes have been rather marginal.

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<sup>76</sup> See Cunningham et al (2000).

### 3. Microfirms and SMEs: access to credit and other financial services

#### a. Rationale for interventions

Micro enterprises constitute around 96% of firms in Colombia and, together with SMEs, are responsible for around 80% of private employment<sup>77</sup>. Most of micro enterprises are informal, low productivity and high rotation firms with little growth potential. However, a fraction of them can be highly productive (TFP above average in their sectors) and have significant growth potential, often impaired by lack of access to credit, training, marketing support and formal institutions<sup>78</sup>. As firms grow in size, growth potential increases and formality and access to credit and other services and institutions improve. However, limitations remain associated with the higher transaction costs associated in extending credit and other services to small as compared to large firms. In particular, costs associated with information gathering, credit analysis, account management and legal aspects related to collateral and enforcement have large fixed components and hence do not grow in proportion to the size of loans and beneficiary firms. Such large differences in transaction costs are usually considered as leading to important market failures.

Which interventions might be efficient in reducing these transaction costs and facilitating micro and SME firms with growth potential to achieve it, by overcoming restrictions in access to credit and other services, while avoiding subsidizing micro and SME firms with no growth potential? There are probably no clear-cut answers to this question and, thus, interventions in these areas must be judged by the balance between Type I (leaving firms with growth potential without access to credit and other services) and Type II (subsidizing firms with no growth potential) errors. In particular, given the much higher proportion of micro and SME firms without growth potential, generalized subsidies to all micro or SME firms would be highly inefficient. On the contrary, some market based interventions, which mostly firms with growth potential may take advantage of, might show a positive benefit/cost ratio.

Colombia has had a relatively long history of interventions geared to extend credit access to micro, small and medium enterprises<sup>79</sup>. Early interventions took the form of the creation of a state owned specialized financial intermediary (Corporación Financiera Popular), which operated between 1968 and 1998, and a guarantee fund (Fondo Nacional de Garantías-FNG) which was created in 1982 with equity provided by the Instituto de Fomento Industrial (IFI) and the Association of Pymes –ACOPI-. The latter has been frequently capitalized with public budget resources<sup>80</sup>. IFI and, afterwards, Bancoldex

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<sup>77</sup> CONPES Policy Document No. 3484.

<sup>78</sup> See Perry, Maloney, Arias and Saavedra (2007), and Cardenas et al (2007).

<sup>79</sup> In addition there are other programs to support micro and SME creation and growth, such as officially supported venture capital and incubators, technical assistance and subsidies to R&D, which we do not discuss here.

<sup>80</sup> A new capitalization is envisaged through a draft law on Financial Reform being discussed in Congress at the time of writing.

since 2003, when IFI was merged with Bancoldex, have offered special credit lines and financial services for microenterprises and SMEs (MIPYMES). As shown below, both FNG and Bancoldex operations with microenterprises and SMEs have grown significantly in recent years<sup>81</sup>. More recently, the Banca de Oportunidades program launched in 2006 has promoted agreements between authorities and commercial banks to extend access of financial services to municipalities without previous banking facilities, thus helping local microenterprises and SMEs access financial services. There have been as well recent regulatory changes geared to facilitating the development of microcredit by commercial Banks<sup>82</sup> and financial leasing and factoring, which are of special importance for MIPYMES. Most commercial Banks have opened specialized sections on microcredit and SMEs, utilizing techniques developed by NGO's working in this field, like scoring, to help assess risk profiles and bring down transaction costs. Few of these instruments are exempt from Type II errors (with the exception of regulatory changes), but may have a positive benefit/cost ratio depending on implementation details.

To begin with, some of these interventions appear in principle to be adequate second-best responses to a market failure typical of underdeveloped credit markets. In such markets, due to excessive asymmetric information and enforcement problems, credit is usually rationed in an inefficient manner through the generalized use of collateral and personal relations. Such a market failure should be overcome, in the long run, through institutional solutions: reducing asymmetric information costs through credit bureaus; improving (legal and judiciary) enforcement institutions; and influencing informal institutions ("repayment culture"). However, such "first best" actions are frequently slow to evolve (e.g., improving the judiciary) or politically difficult to establish. Thus, due to constitutionally mandated protection of privacy and a historical tradition and prevalent culture of protecting the debtor (common to other Latin American countries), efforts to institute effective credit bureaus and to reform laws relating to creditor rights have faced significant political opposition. In such circumstances, credit rationing through generalized use of collateral and personal relations might prevail for a long time, and second best interventions oriented to overcome restrictions of access to credit by micro and SME firms with growth potential, originated in their lack of collateral and direct relations with bank managers, might be an efficient solution.

In this light, partial credit guarantees by FNG appear as a particularly potentially efficient second best policy. It can be argued that a centralized guarantee fund will achieve both savings from broader risk pooling and economies of scale in setting up scoring and other techniques to reduce the effect of asymmetric information problems. As long as commercial banks retain a significant share of risk, Type II errors might be kept under control. The devil is in the details and while the Colombian and Chilean guarantee funds appear to perform rather well, this is not the case of similar initiatives in other Latin American countries, as discussed below<sup>83</sup>.

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<sup>81</sup> Salazar, Natalia and M.F. Guerra (2007).

<sup>82</sup> Mostly related to flexibilizing interest rate "caps" ("usura" limits) that were constraining its development

<sup>83</sup> IDB.

Similarly, Government sponsored agreements with commercial banks to attend underserved areas may be an efficient second best policy, as long as Government compensations are not excessive. These, however, should be preferably subsidies allocated through auctions instead of rather opaque regulatory agreements, as seem to be the case in Colombia.

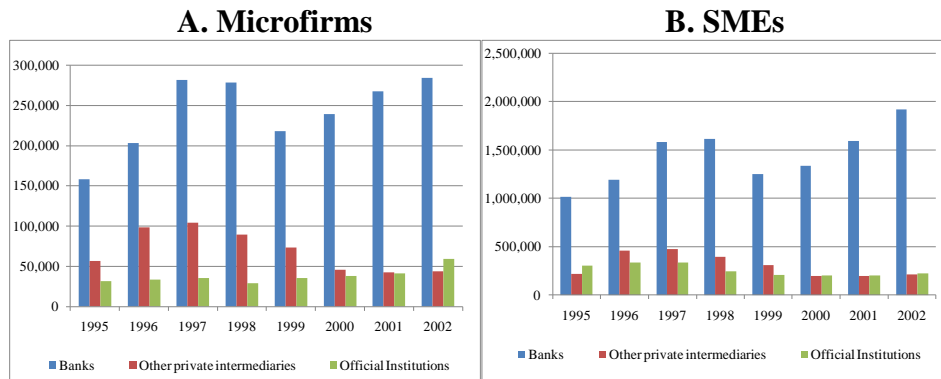
More debatable is the use of subsidized rediscount facilities. The initial high subsidy of IFI lines has been replaced by a much lower subsidy implicit in Bancoldex lines. Bancoldex do not receive direct public subsidies, though there are some implicit subsidies through the use of public capital. Bancoldex rediscount lines appear attractive to banks as they reduce their liquidity risks and costs. Credit risk remains with banks, limiting the scope for distortions. SMEs often request simultaneously FNG partial guarantees and credits supported through Bancoldex rediscount lines. Given the large expansion of credit to SMEs in recent years, as shown below, the combination of these two instruments appears to have been highly effective.

A clearly inferior second best solution was the establishment of a public bank, as there is no reason to believe that such an institution would be better than private banks in collecting information or assessing risks, not to mention the fact that it is prone to be affected by political interference. In fact, for these reasons the initial solution of a specialized public bank (CFP) was abandoned early in Colombia in favor of more market friendly interventions.

#### **b. Evolution of access to credit and public programs**

Figure 16 shows the evolution of credit to microenterprises and SMEs by type of financial intermediary, which followed closely the performance of overall credit until 2002. Growth has been quite fast in recent years, though comparable figures are not available. as shown in the figure, most SME credit is presently supplied through commercial Banks and other private financial institutions: direct official credit contribution is quite small. However, credit through commercial Banks is partially supported through FNG guarantees and Bancoldex (and Finagro) SME rediscount credit lines, which have grown significantly in recent years (Figure 22).

**Figure 15: Credit amounts provided to microfirms and SMEs firms by each type of financial institution**

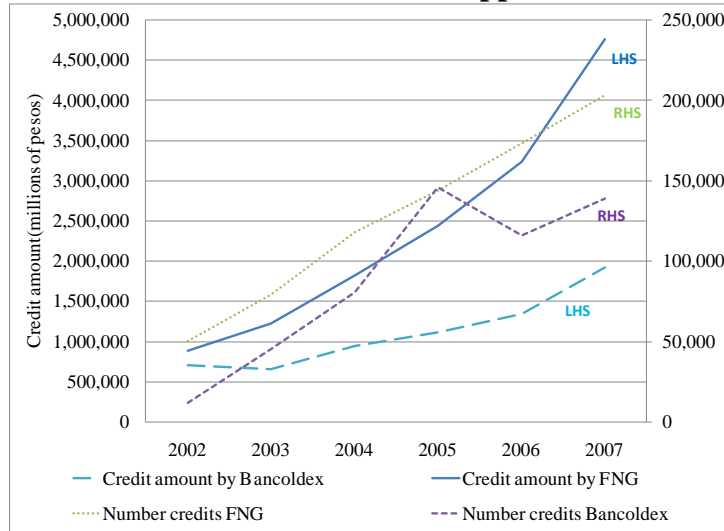


Source: Superfinanciera and calculations from the authors.

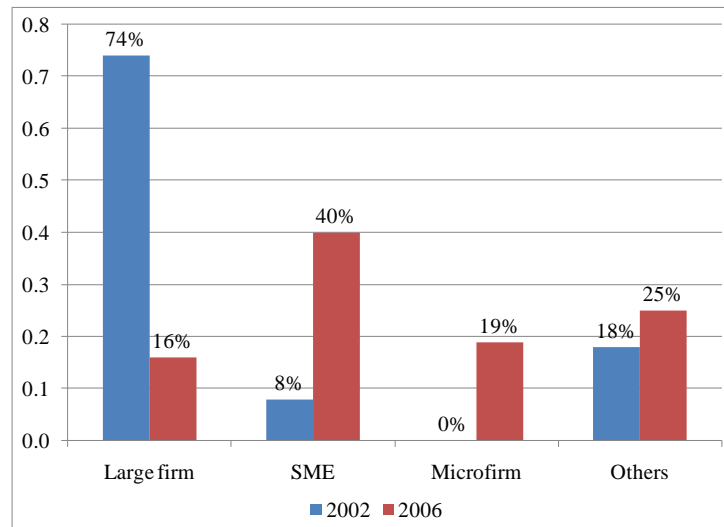
Since IFI was merged with Bancoldex in 2003, Bancoldex liquidated most previous IFI credit lines in favor of large firms and gave a strong push to the consolidation of microenterprise and SME credit lines as shown in panel B, Figure 22. Relatively large explicit subsidies in initial CFP and IFI lines were substituted by market based rates in Bancoldex lines, with relatively low implicit subsidies originated in the use of official capital and multilateral credit lines.



**Figure 16**  
**A. SME Bancoldex and FNG supported Credits**



**B. Bancoldex credits by size of firm**



Source: [www.sigob.gov.co](http://www.sigob.gov.co), Bancoldex 2006 and authors' calculations.

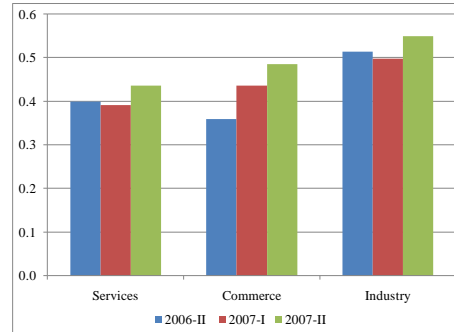
**c. Assessments of access to financial services by SMEs**

A recently launched biannual SME Survey by ANIF (National Association of Financial Institutions), Bancoldex and Banco de la República, gives a clear assessment of SMEs' present access to credit and other financial services. Figure 18 shows that around 54% of SMEs in industry actually demand credit; corresponding rates for SMEs in retail trade and services are 48% and 43% respectively. Credit approval rates are very high (around 95%), Most of credit is used for working capital, and only a small fraction goes

to acquiring machinery or debt consolidation (Panel B). Indeed, recent assessments by users suggest that SME access to short and medium term credit is presently indeed quite satisfactory, but that is not the case for longer-term credit for investment (see below).

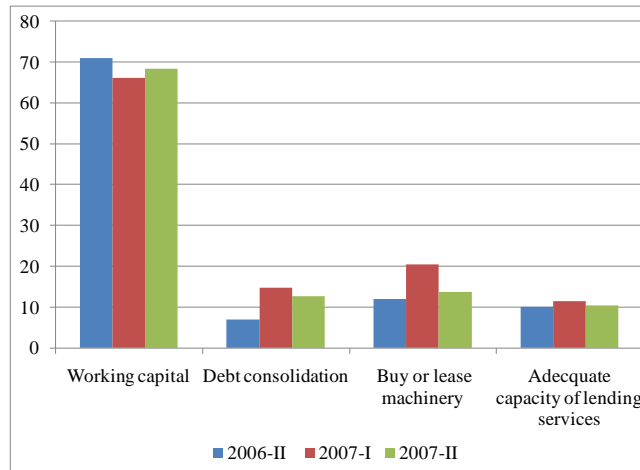
**Figure 17: Percentage of Pymes (SMEs) that asked for and obtained credit**

**A. Fraction of SME's that demand credit**



Source: ANIF. SME Survey, Authors estimates. <sup>84</sup>

**B. Use of SME Credit**

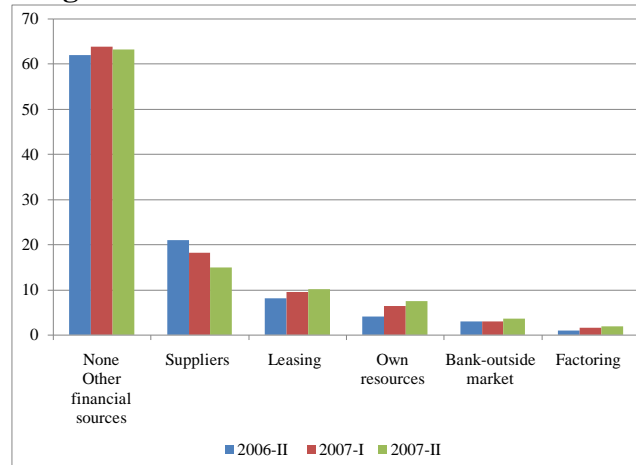


Source: ANIF SME Survey, Authors estimate

Figure 19 shows the use of other sources of financial resources by SMEs. It is to be noted that use of leasing and factoring is quite low, as compared to what happens in other latitudes. Also, as in other countries, access to capital markets is quite limited.

<sup>84</sup> ANIF in association with Bancoldex, BID y Banco de la República

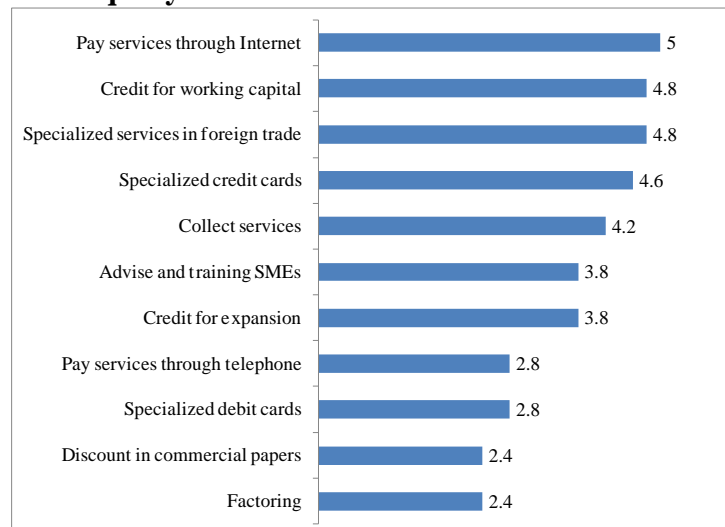
**Figure 18: Other financial sources of SMEs**



Source: ANIF. SME Survey; Authors calculations

The Asobancaria SME Survey suggests that working capital is well supplied; that credit for investment is somewhat more limited; and that factoring services are quite underdeveloped (Figure 26). A recent Fedesarrollo study on the subject came to similar conclusions<sup>85</sup>. In contrast, a comparative study by IDB (2006) indicated that Colombia was well behind other Latin American countries such as Argentina and Chile in the development of risk capital funds and “angel” investors<sup>86</sup>. Given the increasingly recognized importance of private equity funds for emerging successful micro and small enterprises, Bancoldex has recently launched a promising Fund of Funds initiative in this regard<sup>87</sup>.

**Figure 19: Adequacy of access to financial and other services by SMEs**



Sources: Asobancaria SME Survey (2007)

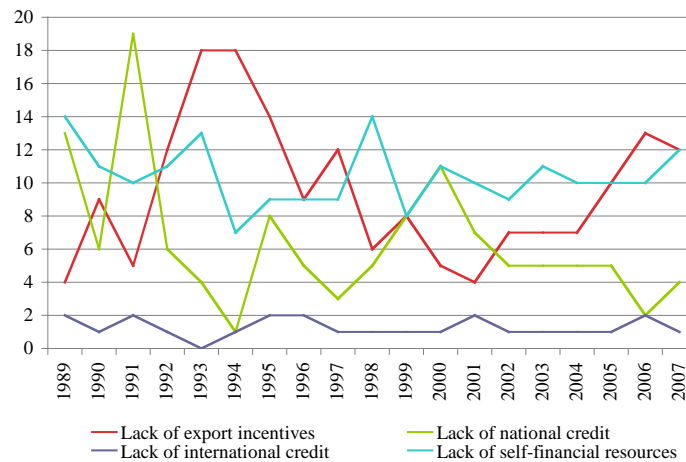
<sup>85</sup> Salazar and Guerra (2007)

<sup>86</sup> IDB (2006).

#### d. Assessments by firms responding the Fedesarrollo 2008 EOS

Previous Fedesarrollo EOSs coincide with previous indicators that the importance of restrictions of access and cost of credit as a constraint to investment has been rapidly diminishing, as shown in Figure 21.

**Figure 20: Impediments for investment, 1989-2007**



Source: Fedesarrollo EOS, annual investment module.

The module added to the EOS for this study found that lack of access to credit is not an important concern for small firms. However, cost of credit is still mentioned by around 21% of small firms find cost of credit as their main restriction to investment, and 12.5% as the second most important restriction. The corresponding figures for medium-sized firms are 14.7% and 18.9% and for large firms 11.9% and 13.5%. Access to risk capital also appears as a significant restriction for small firms (6.8% indicated it was their main restriction, as compared to 1.1% and 0,9% among large and medium sized firms, respectively).

Around 64% of small firms reported using Bancoldex credit, 29% official agricultural credit and 23% FNG guarantees. Use of Bancoldex credit increased over time, while official agricultural credit diminished.

**Table 15: Use of Official Credit Lines (% over total firms responding each period)**

Policy instrument	Before 1990	1990 to 2000	2000 to present
IFI credit lines	45	44	12
Bancoldex credit lines	48	54	64
Finagro, Caja Agraria o Banco Agrario credit lines	35	33	29
Collateral obtained through Fondo de Garant'as	25	26	23
Export insurance or other insurance with government support	31	30	30
Exchange-rate hedging with government support	25	23	26

Source: Fedesarrollo EOS, October 2008.

Table 16 indicates that a high proportion of firms (39%) assess today official agricultural credit lines as not adequate for their needs. These percentages are much lower in the case of Bancoldex lines (16%) and FNG guarantees (29%). There have been significant improvements in perception of adequacy of FNG guarantees overtime and more modest ones with respect to Bancoldex lines, in contrast to a deterioration of opinion on agricultural official lines and former IFI lines.

These assessments vary significantly in some cases by size of firm. The fraction of large firms that deem as “excellent” Bancoldex lines is much larger than in the case of small firms, reflecting remaining difficulties of SMEs in accessing export credit. On the contrary, the fraction of small firms that deem as “excellent” or “good” FNG guarantees and agricultural official lines is much larger than in the case of big firms, indicating that these services are proportionally more important for small firms.

**Table 16: % firms rating instruments as inadequate**

Policy instrument	Before 1990	1990 to 2000	2000 to present
IFI credit lines	17	16	38
Bancoldex credit lines	24	11	16
Finagro, Caja Agraria o Banco Agrario credit lines	27	27	39
Collateral obtained through Fondo de Garantías	43	36	29
Export insurance or other insurance with government support	69	48	38
Exchange-rate hedging with government support	65	61	54

Source: Fedesarrollo EOS, October 2008.

### **g. Conclusion:**

Market failures in financial sectors are widely recognized. There is, however, less agreement on interventions to support SMEs’ access to credit. In this section we take the position that those interventions that facilitate access to credit to many small firms with growth potential, while avoiding subsidizing credit to small firms with no or low growth potential (Type II errors) may have a positive social benefit cost ratio. In this context, we find that Colombian policy has moved from highly inefficient interventions (a dedicated public bank and highly subsidized rediscount credit lines) towards more efficient and effective interventions.

In particular, we argue that FNG guarantees seem to focus well, as a second best policy, on a specific observable market failure (many small firms with growth potential lack access because there is credit rationing through use of colaterals). We further show that the growth in the combined use of FNG guarantees and Bancoldex rediscount lines has facilitated a fast increase in credit to SME’s in recent years (admittedly in a context of high liquidity and economic growth), to the point that access to credit does not seem anymore as a major restriction for investment (though cost still is for many). Eliminating regulatory hurdles has also contributed to the recent growth in microcredit by commercial banks. While the rationale for rediscount lines is more tenuous, the fact that credit risk is retained by commercial banks (and partially by FNG) and that there are no explicit

subsidies (possibly some implicit subsidies through the use of Bancoldex official capital and multilateral credit lines), limit the possibilities of high distortions.

## V. Vertical PDPs' case studies

Colombia's approach to PDPs has been highly sector-specific. This is true looking at trade policies and is also evident at a glance in the tax system that has been plagued by sector-specific tax incentives over the years, which have been, along with tariffs, the most important policy instruments used by the Colombian government to encourage productive growth. In 2004, the National Economic and Social Policy Council (CONPES) calculated that income tax benefits granted to specific sectors or activities amounted that year to about 1.41% of GDP (\$1,520 million)<sup>88</sup>. The legislation resulting in this value is still in place<sup>89</sup>. Table 17 gives a flavor of the history of income tax rate dispersion across sectors, looking at manufacturing between 1993 and 2007.

**Table 17: Average effective income tax by manufacturing sector**

3-digit ISIC	1993-1999		2000-2007	
	Mean effective tax rate	Std. Dev. of tax rate	Mean effective tax rate	Std. Dev. of tax rate
Food products	24.7	1.5	26.8	2.4
Tobacco	19.1	6.9	28.9	5.1
Textiles	21.6	4.0	33.2	1.1
Wearing apparel, except footwear	26.8	2.8	29.0	0.8
Leather products	26.8	3.1	32.2	1.8
Footwear except rubber or plastic	25.7	5.6	33.3	1.0
Wood products, except furniture	23.2	3.7	31.4	3.6
Furniture, except metal	30.3	3.0	31.0	5.7
Paper and products	20.3	5.7	17.0	3.5
Printing and publishing	19.5	0.9	29.8	4.3
Industrial chemicals	27.5	1.7	28.2	2.3
Other chemicals	29.1	1.8	29.2	1.9
Miscellaneous petroleum and coal proc	24.6	7.7	32.1	5.6
Pottery, china, earthenware	19.9	5.9	17.4	11.7
Other non-metallic mineral products	20.9	2.8	31.4	3.6
Iron and steel	24.3	3.5	29.3	4.7
Nonferrous metals	26.7	2.0	26.0	3.7
Fabricated metal products	27.2	2.2	33.5	1.0
Machinery, no electric	27.7	3.1	32.7	1.9
Transport equipment	25.8	3.5	30.5	6.2
Other industries	27.5	2.2	29.9	1.8
Total manufacturing	24.7	3.5	29.2	3.5

Source: Ministry of Finance - DIAN, and calculations by the authors.

Protectionism dominated the PDP system until 1991, and despite the fact that the country went through trade liberalization in the early 1990s and a number of other types of PDPs are in place, there continues to be widespread protectionist practices. In manufacturing, high tariff levels were maintained until liberalization. Effective tariff rates, went from an average of 38% over the period 1980-89 to one of 15% in the 1990s, and have remained close to that level during the present decade, but liberalization was not

<sup>88</sup> Source: CONPES (2004) Policy Document No.3280.

<sup>89</sup> Law 788 of 2002 granted tax incentives for investment including income tax exemptions to fluvial transportation services and eolic energy and biomass energy generation (over 15 years), hotel services (over 30 years), ecotourism (over 20 years), and software (over 10 years), among others. Law 863 of 2003 allowed deduction of fixed assets investments from taxable income.

uniform across sectors and in many cases was partially reversed later on through renewed tariff rate hikes. Table 18 shows tariff dispersion across manufacturing sectors.

**Table 18: Average tariff rates by manufacturing sector**

3-digit ISIC	1980-1989		1990-1999		2000-2007	
	Mean Tariff Rates	St. Dev. of Tariff Rates	Mean Tariff Rates	St. Dev. of Tariff Rates	Mean Tariff Rates	St. Dev. of Tariff Rates
Food products	35.4	15.5	20.8	8.6	18.2	3.7
Beverages	60.0	20.1	18.2	9.1	18.2	2.9
Tobacco	34.2	15.8	16.3	12.0	18.0	3.0
Textiles	59.9	29.6	20.0	7.4	17.9	3.4
Wearing apparel, except footwear	80.0	32.0	22.4	6.7	19.8	0.8
Leather products	41.8	23.8	16.2	9.8	13.3	5.7
Footwear except rubber or plastic	67.8	23.0	22.5	8.0	19.2	1.8
Wood products, except furniture	45.1	18.7	15.8	8.3	13.3	3.8
Furniture, except metal	52.5	14.2	21.2	6.1	18.3	3.6
Paper and products	33.6	12.4	13.9	7.9	12.2	4.9
Printing and publishing	34.7	24.4	15.6	11.6	13.8	8.4
Industrial chemicals	21.8	9.9	7.9	5.6	6.2	3.7
Other chemicals	20.3	15.8	10.0	7.2	8.8	4.8
Petroleum refineries	12.6	7.7	8.3	4.3	8.1	3.3
Miscellaneous petroleum and coal products	21.6	8.4	9.9	5.5	8.1	3.0
Rubber products	39.7	21.3	16.1	7.5	13.8	3.9
Plastic products	57.5	17.6	19.6	6.5	18.3	4.0
Pottery, china, earthenware	49.7	23.5	19.4	9.7	16.3	3.5
Glass and products	32.4	11.1	15.2	8.7	12.9	4.6
Other non-metallic mineral products	30.3	9.5	15.3	6.6	13.1	3.5
Iron and steel	21.0	9.1	8.8	5.1	8.4	3.5
Nonferrous metals	20.5	10.6	7.9	4.9	7.0	2.9
Fabricated metal products	39.5	12.9	16.0	7.5	13.9	4.4
Machinery, no electric	23.0	18.4	9.6	6.4	9.2	4.9
Machinery, electric	33.5	20.7	11.5	7.5	10.3	5.6
Transport equipment	36.5	39.2	14.2	12.1	12.4	8.2
Professional and scientific equipment	25.2	13.4	8.5	6.1	7.4	4.3
Other industries	42.2	16.7	18.4	8.9	15.6	5.7

Source: DNP, Dirección de Desarrollo Empresarial.

Sector specific incentives have been, however, not mentioned out loud in public speech until recently. Colombia has historically maintained the fiction that there is no industrial policy targeting incentives to particular sectors. This has resulted in lack of transparency about the way benefits are granted, and in substantial capture by economic groups of politicians and other actors that participate in the policy-making process. Our hypothesis is that targeted policies in Colombia in general have not followed a market failure rationale. Their implicit logic has rather been one of defending the rents of particular groups. The pervasiveness of rough and inefficient instruments, such as permanent tariffs and income tax exemptions, suggests that this is indeed the case and that, in most cases, the cumulative interventions have basically been the result of effective lobbying. Moreover, policies meant to be horizontal have rarely been purely horizontal, as benefits have concentrated in the same hands over time. To explore these ideas, we will review the experience of two manufacturing sectors that have been object over the years, and still are, of extensive government intervention under different combinations of targeted PDPs: Textiles and Wearing Apparel, and Palm Oil.

In 2008, however, the Colombian government changed its speech to be explicit

about the interest to promote particular sectors, and put together tentative lists of sectors for targeted policies (none of them final) that fall more under this type of rationale. Software falls in this category and has already participated in the design of a Business Plan, the recently introduced policy instrument through which the government intends to bring together the efforts of all relevant government institutions and the private sector to facilitate the sector's development. We will use this case to explore to what extent the more recent sector-specific policies indeed follow a different logic than earlier PDPs.

We intend to connect policies and policy instruments to their underlying rationality, to identify if there are market failures particular to the sectors under review and to establish whether the targeted policies in place have chosen the right instruments, have an adequate design and have been useful to address them. We also establish their connection with the productive activity of each of these sectors by considering them against the observed sector dynamics.

## **1. Textiles and Apparel**

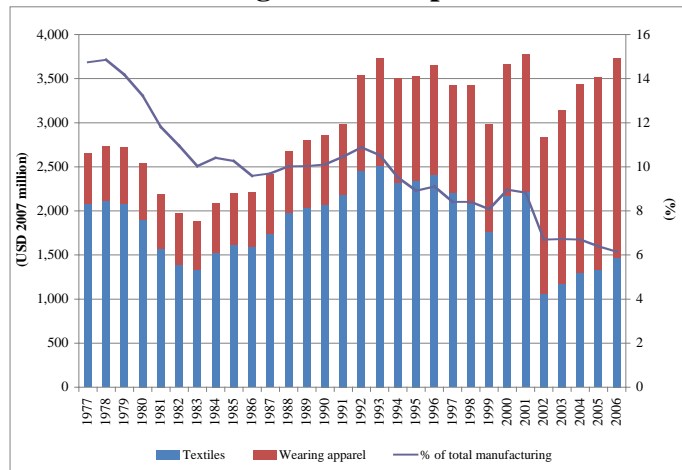
### **a. Sector performance**

The ISIC 2-digit Textiles and Apparel sector, represents 6% of Colombian manufacturing in terms of output and 19% in terms of employment. Figures 28 and 29 show the sector's dynamics since 1977 in terms of these variables.

Figure 22 shows a good growth rhythm in the 80s and early 90s, followed by a negative average growth rate between 1993 and 2002, and then recovery at a good pace until 2006, following the overall economy cycles. The picture is quite different, however, when the Textiles and Apparel sub-sectors are considered separately. While the Textiles sector has shrunk over time, Apparel has grown steadily since 1999. As a share of total manufacturing output, however, the sector has been falling since 1992. The sector's share over employment is more stable, but despite two small recovery episodes, employment shows a negative trend after 1993, explained wholly by the shrinking of the textiles sub-sector. The jump in 1992 in Figure 23, while more noticeable in the employment series is common to all variables from DANE's Annual Manufacturing Survey, and is due to methodological changes introduced to the survey on that year.

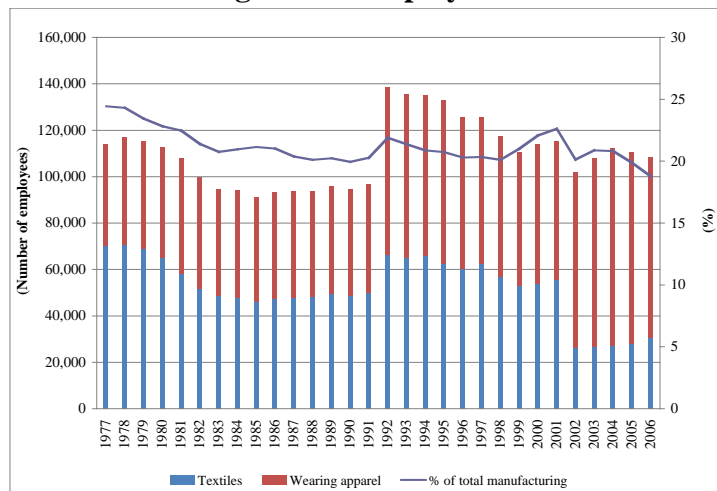


**Figure 21: Output**



Source: DANE, Annual Manufacturing Survey

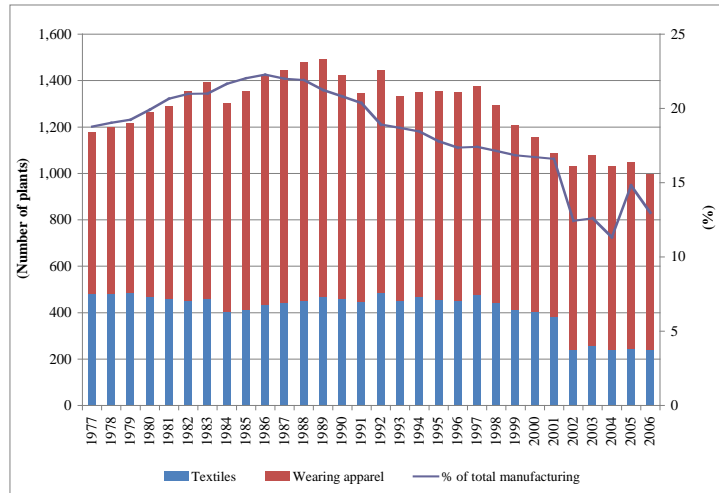
**Figure 22: Employment**



Source: DANE, Annual Manufacturing Survey.

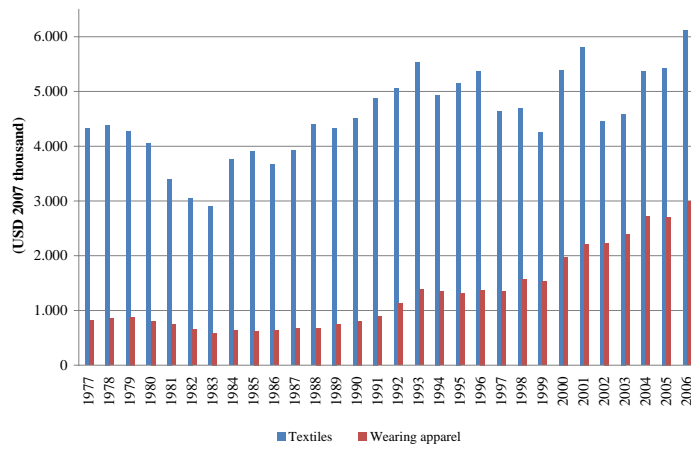
Figure 24 shows that the Textiles sub-sector decreasing trend is explained by substantial exit of productive units between 1998 and 2002, and little or no net entry after that year. The remaining plants are somewhat larger than before both in output and employment (see Figures 31 and 33). The Apparel sub-sector shows no net entry of plants either and an even more marked trend towards larger plants.

**Figure 23: Number of plants**



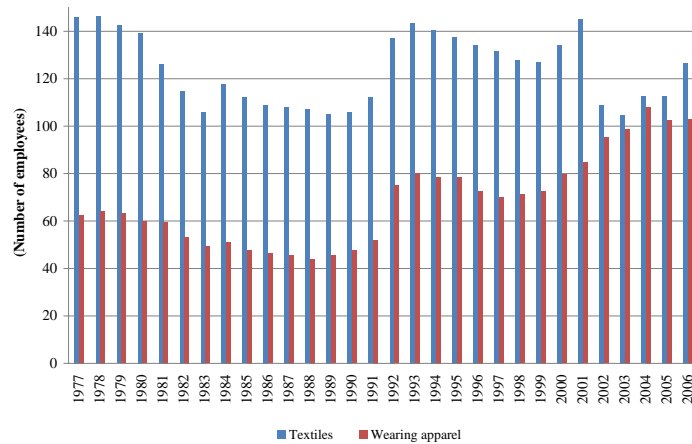
Source: DANE, Annual Manufacturing Survey.

**Figure 24: Plant size by output**



Source: DANE, Annual Manufacturing Survey.

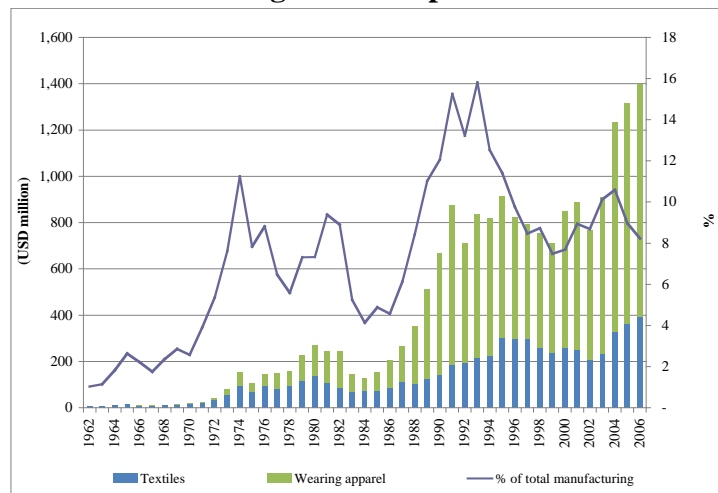
**Figure 25: Plant size by employment**



Source: DANE, Annual Manufacturing Survey.

The positive growth performance of wearing apparel is easily associated to its exports dynamics. Apparel exports grew at a good pace between the mid-1980s and the mid-1990s, then slowed down and seem to have picked up a good growth rhythm since 2002. As a share of total manufacturing exports, however, Textile and Apparel exports fell steadily in the 1990s, and again started falling after 2004.

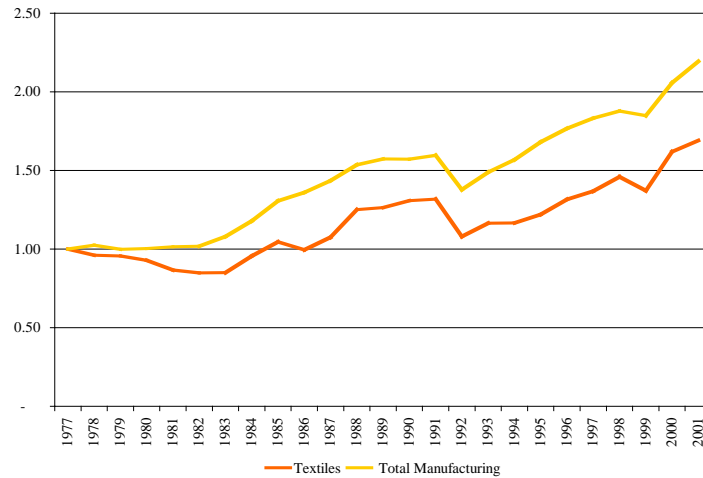
**Figure 26: Exports**



Source: DANE.

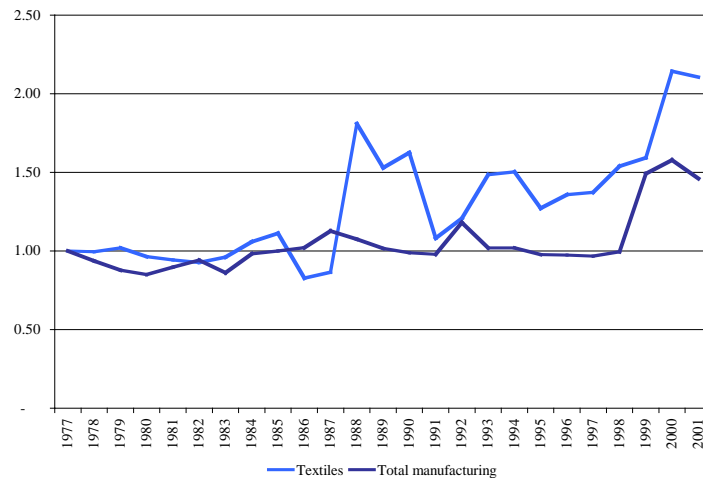
Finally, while with regards to labor productivity growth the Textiles and Apparel sector has underperformed relative to the average of manufacturing (see Figure 28), with respect to total factor productivity growth (TFP) it has done better (see Figure 29). Annual average TFP growth for the whole period is of about 2.4%, which is however not impressive, if productivity is to be the motor of economic growth.

**Figure 27: Labor productivity, 1977=1**



Source: DANE, Annual Manufacturing Survey.

**Figure 28: Total factor productivity**



Source: Melendez and Seim (2006)

**b. Use of policy instruments**

Can this sector’s performance be in any way tracked back to the many PDPs it has been exposed to throughout the years? In this section we characterize the ways and extent in which the textiles sector has taken advantage of government aids, using Fedesarrollo EOS module<sup>90</sup>, all sources of available data.

Table 19 shows the proportion of firms that report to have used each policy instrument available. We have grouped instruments or programs by broad categories,

<sup>90</sup> Fedesarrollo EOS figures for the Textiles sector pending to be updated.

depending on their guiding policy objectives. We find a higher share of firms reporting use of most instruments since 2000. While there is a potential bias from a better recollection of the recent years, there seems to be an undeniable increasing trend in firm participation, probably triggered by a more proactive government in this last period.

Before 1990, export promotion policies were the more widely used. Arbeláez et al (2007) report that when asked about the role played by the government, exporting firms in the wearing apparel business stated there are two areas of policy in which the action of the government is recognized by the industry to have facilitated export activities: policies contributing to lowering the final price of the export products in the foreign markets to improve their ability to compete, and policies contributing to reach the potential demand in the foreign markets.

In the first category, preferential trade agreements appear to have played an important role in facilitating competitiveness of the industry's products in the foreign markets. The textile and apparel sector as a whole has been affected by (1) the Andean Group's - Colombia, Ecuador, Venezuela, Bolivia and Peru- reorientation towards a more open-doors integration model (1989-1993) that brought about the adoption of a common external tariff system by 1995; (2) the signing of the G3 trade agreement with Venezuela and Mexico (1994) to further the rapid insertion of the Colombian economy in the international markets; and most importantly (3) the signing of ATPA (1991) and later of ATPDEA (2002), unilateral tariff preference agreements with the United States. 45% of the firms report to have used one or more of these agreements in the present decade.

**Table 19: Use of policy instruments, EOS**

Policy instrument	Before 1990	1990 to 2000	2000 to present
<b>Financial instruments</b>			
IFI credit lines	15	25	5
Bancoldex credit lines	20	25	80
Finagro, Caja Agraria o Banco Agrario credit lines	15	15	20
Collateral obtained through Fondo de Garant'as	0	5	5
Export insurance or other insurance with government support	10	15	25
Exchange-rate hedging with government support	10	10	25
<b>Export promotion instruments</b>			
Cat or Cert.	20	25	25
Free export zones	20	30	35
Plan Vallejo	20	25	50
Market information	15	20	45
Fairs and events	15	20	55
Contact with potential clients	20	30	50
ATPA, ATPDEA or other special tariff agreement	20	25	45
<b>Protection from foreign competition</b>			
Tariff protection	20	20	45
Other form of protection	0	0	0
<b>Technological Innovation</b>			
Colciencias funds for technological innovation	15	15	15
Support from Corpoica or Fondos Parafiscales	15	15	20
Incubator program or similar	10	10	15
<b>Tax incentives and/or subsidies</b>			
Income tax exemption or deduction	20	20	50
VAT tax exemption or reduction	20	25	50
Direct subsidy	10	10	10
<b>Training</b>			
Basic training through SENA	15	20	55
Specific training through SENA	15	20	45
Training through other government owned institute	15	15	15
Training through private institute	15	15	20
Training within the firm	20	20	40
<b>Other</b>			
Quality certification program	15	20	30
Phitosanitary certification program	10	15	20
Red tape reduction program	15	20	40

Source: Fedesarrollo, EOS, October 2008, PDP Module

In the same category, Plan Vallejo, a program under which the local industry is allowed to by-pass tariffs when importing inputs to be used in the production of exports, has also contributed to lower export costs. In practice Plan Vallejo not only affects the prices paid for imported inputs but also those of the local competitors selling to exporters. While such program is unnecessary under an open market regime, it has remained useful to the industry as the local market for inputs continues to be protected. 20% to 25% of firms report to have used it before 2000, and the share seems to have increased in more recent years.

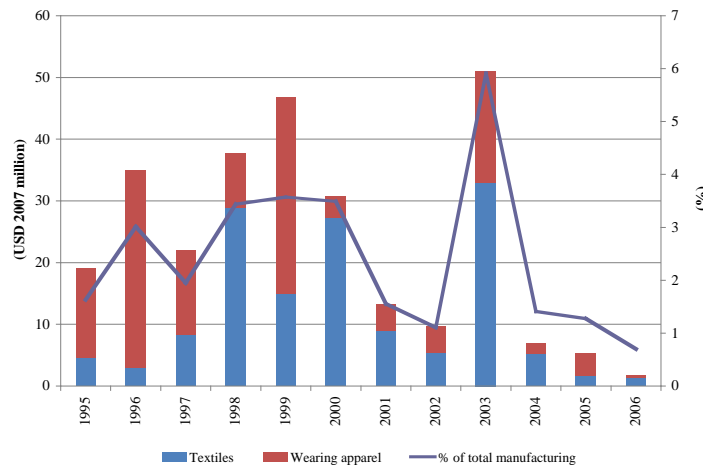
In the second category, of policies contributing to reach the potential demand in the foreign markets, in the recent years Proexport has played a proactive role as trade facilitator through its international offices. In particular it has facilitated the interaction of the potential buyers (department stores, specialty stores and other) with the potential sellers, often represented by the larger apparel Colombian firms. While this is still an incipient effort from the side of the government, it is immensely valued by the industry and has apparently proved useful in terms of materializing new business opportunities, particularly in the U.S. market (Arbeláez et al, 2007). 45% of the firms report to have

benefited from market information and 55% report to have participated in fairs since 2000.

Bancoldex credit (to exporters until 1991 and to all producers after merger with IFI) also reportedly reached 25% of all textile firms before 2000. The proportion after this year is much higher, of 80%. Figure 30 shows the evolution of Bancoldex Credit to the Textiles and Apparel sector since 1995. With the exception of 2006, when Textiles and Apparel accounted for 6% of all Bancoldex credit, financing from Bancoldex was, however, more important in value before 2000. Also, since 2000, it has mostly gone to the shrinking Textiles sub-sector.

With respect to the use of CERTs – a subsidy (used to pay taxes) to exporters, set at different rates over exports for selected sectors, Textiles and Apparel continues to get a major share of them. They have however become much smaller than they used to be in the past (see Figure 31).

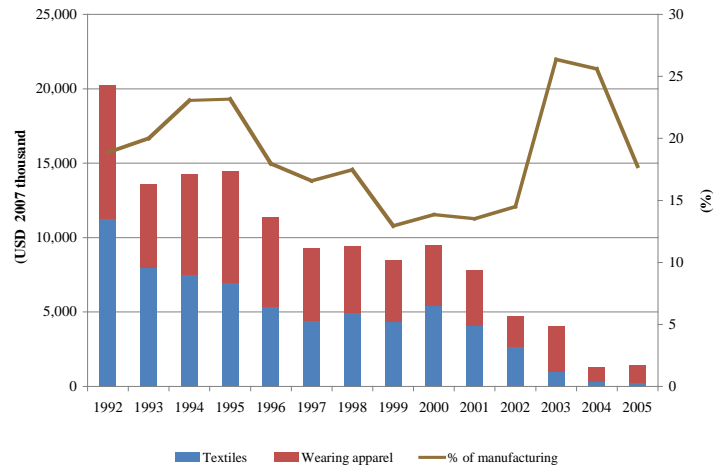
**Figure 29: Bancoldex credit**



Source: Ministry of Industry and Trade and calculations from the authors.

The proportion of firms who report to have used or benefited from tariff protection is also increasing overtime, from 20% to 45% before and after 2000, respectively. This pattern of response probably obeys to a perception of higher foreign competition in a context of increasing globalization in recent years, despite lower tariff protection. Figures 37 and 38 show the nominal and effective tariff rates over time.

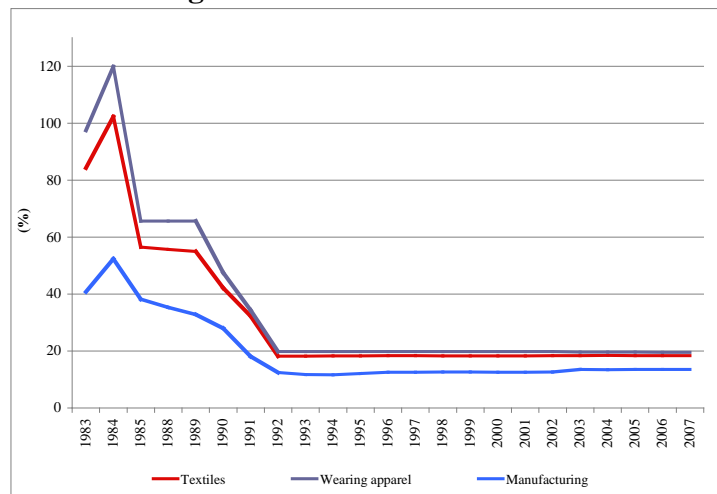
**Figure 30: CERTs**



Source: Ministry of Industry and Trade and calculations from the authors.

While tariff protection is much lower nowadays than it was in the 1980s, Textiles and Apparel remains protected above average manufacturing. The nominal tariffs shown in Figure 32 are around 20%, but effective protection is much higher (see Figure 33).

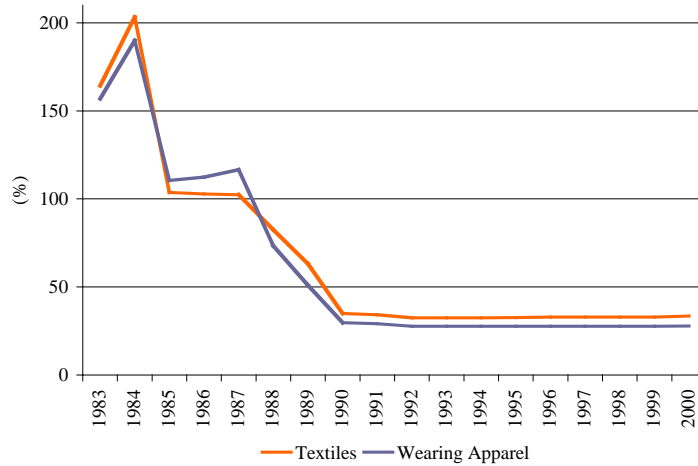
**Figure 31: Nominal tariff rates**



Source: DNP, Dirección de Desarrollo Empresarial



**Figure 32: Effective tariff rates**

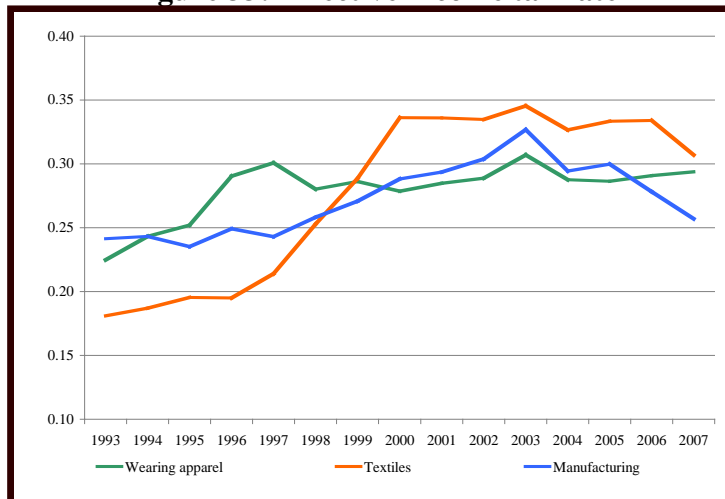


Source: DNP, Calculations by Rodrigo Moreira. Dirección de Desarrollo Empresarial.

Only 15% to 20% of firms report to have benefited from the policy instruments in the Technological Innovation category.

With respect to tax incentives, the high proportion of firms who allegedly have benefited from this type of instruments after 2000 probably reflects to use of the tax reduction “for investment in fixed assets” introduced in 2004. Figure 34 shows the breaking point this measure introduced to the effective income tax rate that is obtained after multiplying the nominal income tax rate by the discount factor resulting from accounting for all exemptions and deductions<sup>91</sup>. Note that the nominal income tax rate in 2004 was of 38.5%.

**Figure 33: Effective income tax rate**



Source: DIAN and calculations from the authors.

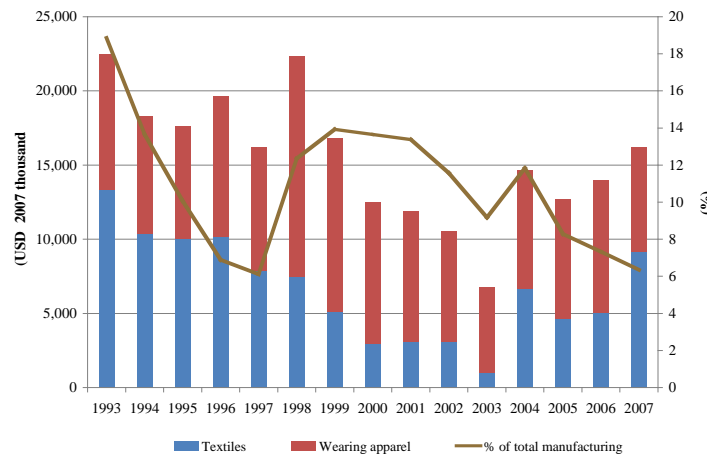
<sup>91</sup> Using the nominal tax rate we calculated the tax amount payable by each 3-digit ISIC after eliminating all tax deductions and exemptions. The discount factor is the ratio of this calculated tax and the actually paid.

Since 1998 Apparel has had a much lower effective income tax rate than Textiles – more deductions and exemptions. The former sub-sector is systematically below the manufacturing average on this account over the whole period, while the former is above. In value, however, tax deductions and exemptions to Textiles and Apparel peaked in 1998 and had since then been falling, despite increasing effective tax rates – the initial decline coincides with the recession of 1999. In 2004, they recover reaching a value of more than twice the previous year, which is later sustained; this is the effect of the so-called investment deduction.

Figure 35 shows that the Textiles sub-sector takes the greater advantage of this opportunity and is able to multiply by several times its tax deductions from previous years.

Finally, firms report increasing use of general and specific training through SENA and of programs related to quality and control certification. They also report being increasingly affected over time by red tape reduction efforts.

**Figure 34: Income tax reductions and exemptions**



Source: DIAN and calculations from the authors.

Table 20 presents a summary of the dynamics of both performance and policy use over time.

**Table 20: Average annual growth rates**

	Output	Employment	Exports (USD)	Number of plants	Plant size by output	Plant size by number of employees	TFP	Labor productivity	Effective income tax rate	Tax reductions and exemptions in value	Nominal tariff rate	Effective tariff rate	Bancoldex credit	CERTs
<b>Textiles</b>														
1980-1990	0.9	-2.9	0.5	3.7	1.1	-2.7	5.4	3.9	-	-	-14.8	-14.8	-	-
1990-1995	2.4	5.1	16.2	-2.8	2.7	5.4	-4.8	-2.6	2.6	-9.1	0.2	-1.4	-	-11.3
1995-2000	-1.5	-2.9	-3.1	-1.0	0.9	-0.5	11.0	1.4	11.5	-21.8	0.0	0.6	42.9	-4.9
2000-2006	-6.3	-9.1	7.2	-5.1	2.1	-1.0	-	3.1	-0.1	-2.7	0.0	-	-39.3	-46.9
<b>Wearing Apparel</b>														
1980-1990	2.0	-0.4	14.7	4.3	0.0	-2.2	5.4	2.3	-	-	-16.0	-4.4	-	-
1990-1995	8.6	8.9	3.1	-1.7	10.1	10.5	-4.8	-0.3	3.9	-5.8	0.0	-11.4	-	-4.4
1995-2000	4.7	-3.2	-0.7	4.7	8.5	0.3	11.0	8.2	2.0	4.7	0.0	-22.2	-25.0	-11.4
2000-2006	7.2	4.4	9.3	2.7	7.1	4.4	-	2.6	0.7	-12.8	-0.3	-	-29.7	-22.2
<b>Total Manufacturing</b>														
1980-1990	4.0	-0.4	4.2	5.2	3.2	-1.2	1.5	4.4	-	-	-12.7	-9.2	-	-
1990-1995	6.9	6.2	7.7	2.8	4.7	4.0	-0.2	0.6	-0.9	13.7	0.3	-1.7	-	-12.6
1995-2000	0.6	-4.2	6.6	3.2	2.6	-2.4	10.0	5.1	4.2	-12.2	0.0	0.4	-5.5	1.9
2000-2006	6.8	1.8	7.4	6.7	5.0	0.1	-	4.9	-0.6	13.0	1.4	-	-18.7	-35.2

Source: DANE, Ministry of Industry and Trade, DIAN, DNP and calculations by the authors

### c. Conclusions

If PDP design is to be evaluated based on there being a good match between reported market failures and policy instruments made available, then both general and specific training programs, as well as red tape reduction programs, and financial instruments directed toward giving firms access to lower costs of financing are good policies. These are policies that can be tailored to particular sector-level needs, but which are in principle of horizontal character. Just as well, a request for lower taxes should be understood as a request for a horizontal policy and not for differential tax benefits.

The point to make here, is that firms in the Textile and Apparel sector appear to be requesting horizontal policies as a response to the problems they face, which are often times government failures transversal to all productive sectors. Sector-specific policies in the shape of tax reductions or exemptions or import tariffs, are bad policies to the extent they are not designed to solve the problems allegedly limiting investment. And they are also bad or useless costly policies when considered against firm performance. The Textiles sub-sector produced 399.3 thousand dollars more in output in 2006 than in 2002. During the same period it recovered 6185.7 thousand dollars in tax reductions and exemptions. This occurred while the Apparel sub-sector experienced substantial growth under higher income tax rates.

The Textile and Apparel sector experienced the higher average TFP growth after the recession of 1999, when a number of inefficient plants exited the industry. The review of this experience of permanent targeted government interventions in different shapes raises the concern of whether some low-productivity firms –particularly in the Textile sub-sector– have been kept artificially active, with a resulting detrimental effect on aggregate productivity, when in absence of these policies they would have closed operations.

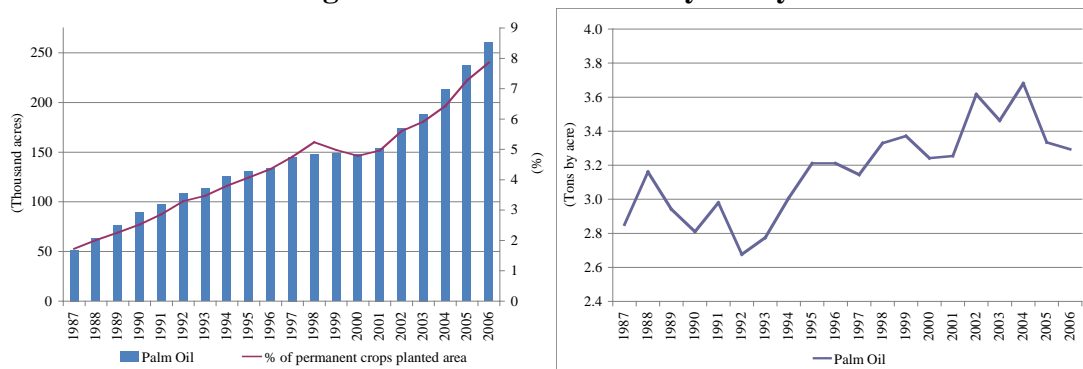
## 2. Palm Oil

### a. Sector performance

Palm oil comes from the kernel and fruit of African Oil Palm. In its crude form and in its “simple” refined form, Palm Oil is a commodity. Oils and fat with specific characteristics as well as bio-fuels can be obtained by further refinement, hydrogenation and mixtures, and sold in the market as differentiated products with value added. Oil palm is a permanent plantation that takes around 2 years to start production, and other 5 years to reach its peak. It keeps productive for over 50 years.

As can be seen in Figure 36, the total planted area of Oil Palm has grown steadily over time. Growth was particularly high, however, during the second half of the 80s, when the planted area more than doubled. By 2006 Oil Palm plantations occupied more than 250 thousand land acres, representing about 8% of all permanent crops planted areas in Colombia. Consequent output increases were accompanied by substantial productivity growth between 1992 and 2004. In recent years, however, the yield by acre deteriorates.

**Figure 35: Planted area and yield by acre**



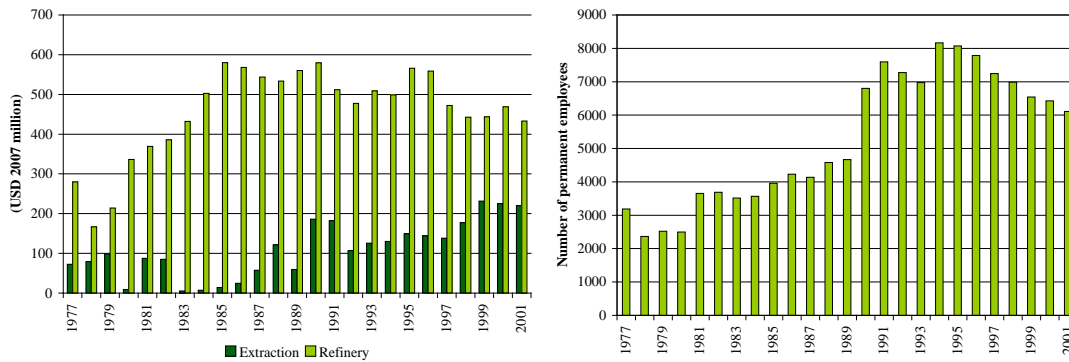
Source: Ministry of Agriculture

The Oil Palm plantations dynamics were also accompanied by substantial entry of extraction plants, which went from 2 in 1983 to 26 in 2001<sup>92</sup>, with a noteworthy jump in the number of extraction plants in 1990. The pattern of refinery plants is quite different, with much less fluctuation and a decreasing tendency since 1994.

In terms of money value, the story of output growth is less appealing. The impressive growth rates shown above, in particular, do not reflect in the value of refinery activities, which follow a different dynamic. Employment in Palm Oil production has also been falling since 1995 (see Figure 37).

<sup>92</sup> Changes from ISIC Revision 2 to ISIC Revision 3 coding in the Annual Manufacturing Survey in 2002 prevent the series from this source from being updated.

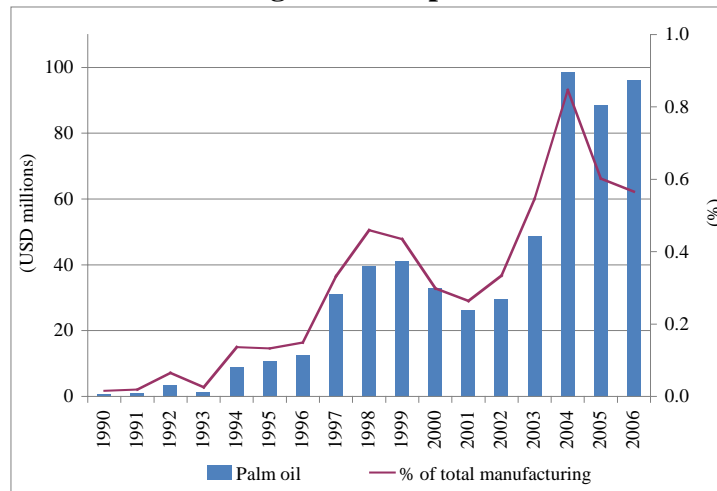
**Figure 36: Output value and permanent employment**



Source: DANE, Annual Manufacturing Survey

Finally, Figure 38 shows Palm Oil export dynamics since 1990. Exports took-off only in 1994, and grew steadily until 1999, when they started to fall. Deterioration during the following years was, however, followed by recovery at even higher rates than in the previous period of positive growth and peaked in 2004. 2005 and 2006 again saw exports decline.

**Figure 37: Exports**



Source: COMTRADE.

### b. Use of policy instruments

Oil palm was introduced in Colombia in 1932 but its commercial expansion started only 20 years later as a result of government measures to promote economic growth based on import substitution. Under a government program to encourage oil crops, plantations were started in the Caribbean coastal plain, the Middle Magdalena Valley, the foothills of the Eastern Plains –Llanos Orientales– and the Southwest of the country. The planted area tripled in the 1980's and Palm Oil became an important raw material in the productive chain of oilseeds, oils, and fats.

The government first promoted Oil Palm production in 1957 through an extension to Oil Palm of the Obligatory Absorption Law that subjected cotton imports to the clearance of the local production in the market (Decree 290 of 1957). This regulation not only forced national producers of oils and fats to buy the complete internal oleaginous production in order to gain access to import licenses, but also granted special tax treatments to private investments in delayed yield crops. Almost simultaneously, Law 26 of 1959 determined that all commercial banks had to assign 15% of their deposits to the promotion of agriculture, livestock and fishing and special credit lines were created for late yielding cropping, from which the sector greatly benefited.

The measures described above were complemented by a plan of private/public joint ventures promoted by the government for plantations of 5 million square meters, and by technical support and seed distribution for smaller crops, often as part of a process of “leaded colonization” by which lands were offered in exchange for entering Oil Palm agriculture in specific areas. The government implemented a diffusion campaign through written press and agricultural fairs, while simultaneously persuading experienced oil and fat producers to assemble extraction plants in the plantation areas that later proved vital for the success of Oil Palm plantations. In addition, research to foster oleaginous production in Colombia, motivated a plantation of 100-150 mother-trees in order to supply high value seeds, that was also vital in providing high quality Oil Palm seeds. As is evident, the government was an active participant in fostering the sector’s development.

In 1963 several funds were created to handle resources destined to finance agricultural and industrial activities, the first of which was the Private Investments Fund –FIP (for its acronym in Spanish). 15 million dollars were destined to promote new plantations of Oil palm (of 87 million requested to the Inter American Development Agency). Small farmers also had access to credit through Caja Agraria, the government owned rural bank.

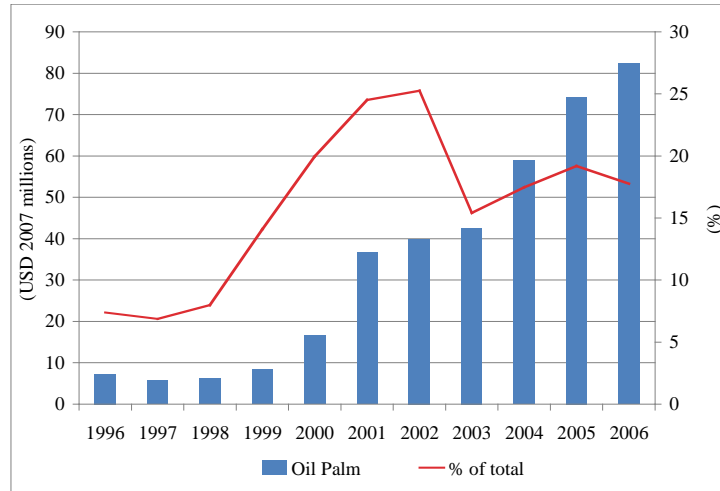
During the late 1960s and 1970s, however, a change in the national development strategy towards export promotion, in combination with plant diseases and competition from other oleaginous, slowed Palm Oil’s production dynamics. At the same time competition proved useful to discipline producers, and generate productivity gains through genetic progress. It also fostered cooperation.

In the 1980s, internal prices rose, taxes were reduced and financial support was incremented, allowing producers to capitalize on their experience. Even though all efforts to stimulate production were directed towards developing the internal market to reduce Colombian dependency on foreign supply of oleaginous, the boom of the 80s resulted in excess production in the 90s, giving origin to an export supply.

Trade liberalization undergone in the 90s brought about efforts to compensate losses from higher exposure to foreign competition. In particular, various financial mechanisms to support agricultural products were put in place, from which Oil Palm greatly benefited. Figure 39 shows how Finagro’s investment and human capital credit lines for this product

have increased in value, especially since 1999. As a % of total credits, financing to Oil Palm from Finagro peaked in 2002 when it reached almost 25%. After that year there is a break in the tendency and Oil Palm loses importance as a creditor. In 2006, however, this participation was still significant, if about 18%.

**Figure 38: Credit from Finagro**



Source: 2006 Agricultural Statistical Yearbook and calculations by the authors.

Several forms of government intervention have accompanied the observed growth of palm oil exports. Aside from the support to local production described above, there are two policy areas that have proved critical for the sector's performance: (1) the adoption, in the context of trade liberalization in the 90s, of a band-tariff system for a set of agricultural products including Oil Palm, and (2) the creation of a price stabilization fund, to protect Palm Oil production and exports from international price fluctuations. These instruments were put in place in 1994 and 1996, respectively.

The band tariff system is a protection system by which variable tariff rates adjust as required to keep domestic prices within a reference price band, is in place. Prices are monitored constantly, and the floor and ceiling of the band are reviewed every 6 months. Table 26 shows the resulting average tariff rates over the period 1996-2004 under this system. The nominal tariff rate to which these may be compared is 20%.

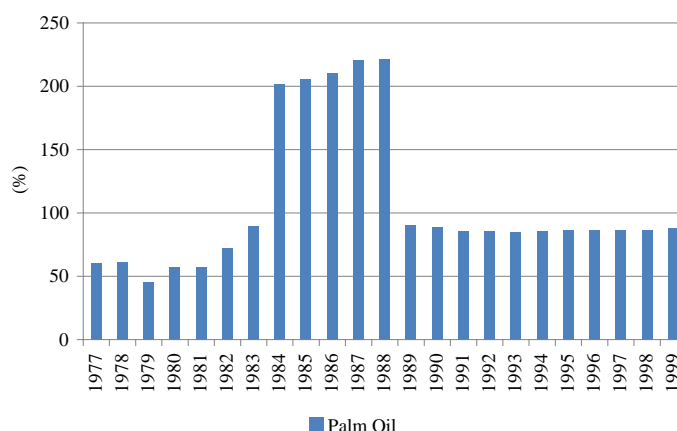
**Table 21: Tariff rates for selected agricultural sectors, 1996-2004  
(under the band-tariff system)**

Crop	Average tariff rates under band tariff system (%)									
	1996	1997	1998	1999	2000	2001	2002	2003	2004	
Wheat	5.2	19.1	43.1	48.0	34.0	22.4	13.1	10.6	4.5	
Barley	8.8	16.8	39.0	37.9	28.6	16.8	14.8	8.2	9.9	
Yellow corn	8.1	27.3	48.0	65.3	70.2	50.9	26.5	14.8	6.4	
White corn	4.4	19.9	32.6	49.3	67.5	35.5	16.8	6.9	6.9	
Rice	17.0	21.5	21.1	45.6	69.7	79.8	49.3	32.2	19.8	
Sorghum	8.1	27.3	48.0	65.3	70.2	50.9	26.5	14.8	6.4	
Soybeans	3.7	6.0	24.8	56.1	39.6	38.5	25.4	10.8	0.2	
Peanuts	3.7	6.0	24.8	56.1	39.6	38.5	25.4	10.8	0.2	
Brown sugar	3.7	6.0	24.8	56.1	39.6	38.5	25.4	10.8	0.2	
White sugar	22.4	25.2	55.6	106.9	72.0	41.2	68.8	43.2	42.7	
Palm Oil	18.0	19.0	8.0	52.0	42.0	40.0	29.0	20.0	15.0	

Source: Ministry of Agriculture.

Figure 40 shows effective tariffs for Palm Oil computed from nominal tariffs, before the band system is activated.

**Figure 39: Effective tariff**



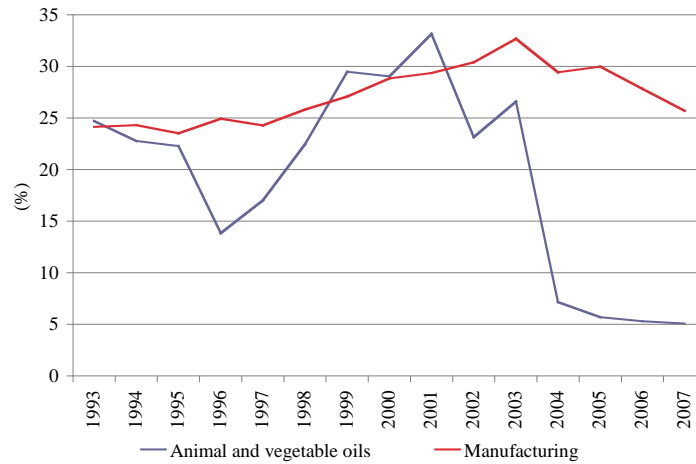
Source: DNP – Calculations by Rodrigo Moreira. Dirección de Desarrollo Empresarial.

The Palm Oil price stabilization fund has its origin in Law 101 of 1993, that established the creation of price stabilization funds for agricultural, farming and fishery products, as special accounts designed to “ensure a fair income to producers, regulate national production and increasing exports, by financing the stabilization of prices to producers”. The Palm Oil price stabilization fund was organized under these dispositions by Decree 2354 of 1996, as part of the Fund for Palm Promotion (Fondo de Fomento Palmero) that had been created in 1994.

Notwithstanding all of the above, Palm Oil is also subject of preferential treatments through taxation. Figure 41 shows the effective income tax rate, calculated as described above, for the 4-digit ISIC Vegetable and Animal Oils and Fats, to which Palm Oil belongs.



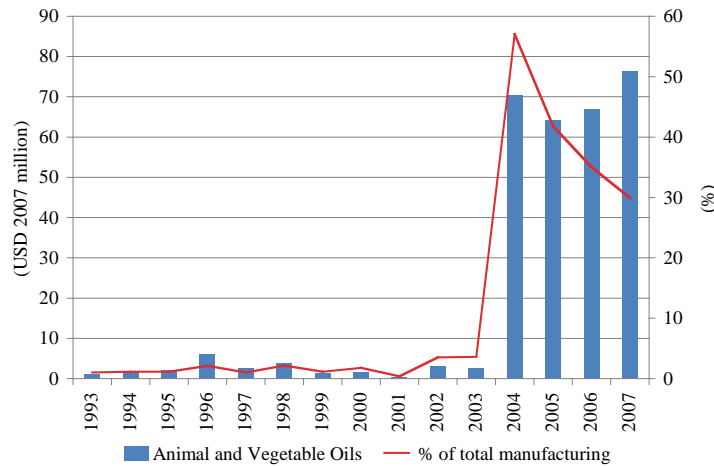
**Figure 40: Effective income tax rate**



Source: Ministry of Finance – DIAN and calculations by the authors

Figure 42 shows that since 2004, income tax reductions and exemptions to the Vegetable and Animal Oils and Fats sector have amounted to more than 60 USD 2007 million per year.

**Figure 41: Income tax reductions and exemptions**



Source: Ministry of Finance – DIAN and calculations by the authors

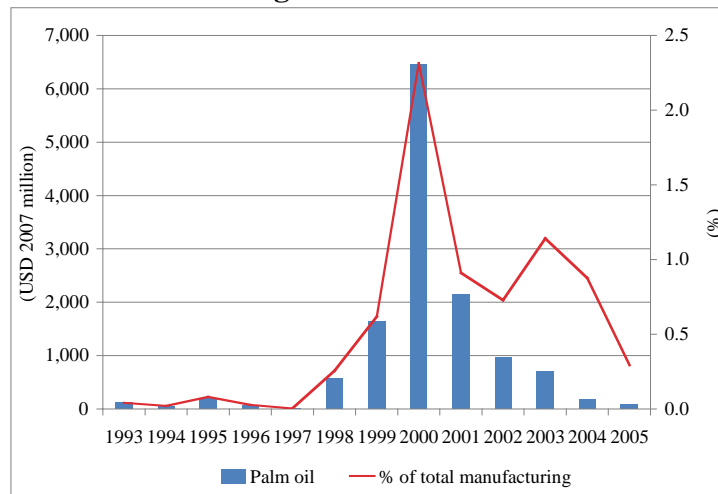
The drop in the effective income tax rate in 2004, as well as the magnitude of tax benefits since that year, probably results from the combination of the 40% reduction for investment in fixed assets mentioned above, the 10% reduction of the taxable database for new investments in reforestation, and the income tax exemption to new plantations during 2003-2013, intended to promote bio-diesel production.

Incentives to bio-diesel production also include VAT tax exemptions, and the mandate that vehicles in cities with population of more than 500,000 must use a mix of gasoline with 10% bio-fuels.

Other policies of more transversal character, but relevant for the Palm Oil sector particularly looking at bio-diesel production, are tariff exemptions on inputs used in exports production through Plan Vallejo, tariff exemptions to machinery imports, and the Free Trade Zone regulations for agro-industrial projects (including bio-diesel) according to which investments of USD 16.4 million or above, or creating 500 work places will benefit from a 15% income tax rate (compared to the current nominal tax rate of 33% in 2008), regardless of being physically located within the Free Trade Zone. For the final draft we hope to collect quantitative evidence of use of these instruments.

We do have evidence for use of CERTs by Palm Oil exporters (see Figure 43). These type of subsidies peaked for the sector in 2000, when they represented about 2,3% of all CERTs granted, and have been falling both in value and as a share of total CERTs since then.

**Figure 42: CERTs**



Source: Ministry of Industry and Trade.

Table 22 presents a summary of the dynamics of both performance and the record available of policy use over time.

**Table 22: Average change rates (%)**

	1980-1990	1990-1995	1995-2000	2000-2006
Output	8.3	-1.4	-1.5	-
Employment	10.5	3.5	-4.5	-
Exports (in USD)	-	65.4	25.4	19.6
Number of plants	10.7	-3.3	-0.4	-
Plant size by output	-3.9	-2.7	2.1	-
Plant size by number of employees	-1.9	2.1	-1.0	-
Cropland area	-	7.9	2.4	9.9
Yield by acre	-	4.6	0.6	-1.6
Labor productivity	-2.0	-4.7	3.2	-
Effective income tax rate**	-	-3.4	5.4	-22.1
Tax reductions and exemptions in value**	-	18.4	-4.0	73.1
Tariff rate	8.9	-15.2	0.2	0.3
Effective tariff rate	7.1	-1.1	0.2	-
Finagro credit	-	-	8.1	23.5
CERTs	-	21.1	99.7	-57.1

Source: DANE, Ministry Agriculture, Ministry of Industry and Trade, DIAN, DNP and calculations by the authors.

\*\*For 4-digit ISIC code Animal and Vegetable Oils.

### c. Conclusions

Palm Oil has been object of a number of targeted policies over the years. It seems subsequent governments have implicitly agreed its development is of strategic importance for Colombia. Another possible explanation would be successful sector lobby capacity to materialize policy requests.

Regretfully the picture is one of pervasive protectionism and preferential treatments that are hard to justify on grounds of market failures. Interestingly, however, distortions introduced by policy interventions have resulted in significant sector expansion and successful export activity. Colombia is today the larger Palm Oil producer in South America and the fifth Palm Oil exporter worldwide.

The story of export success has its origins in tariff protection and price stabilization, but for unexpected reasons: artificially high prices in the domestic market apparently created excess domestic supply and allowed entry into the world markets of producers that otherwise would have been unable to compete. Some of them took advantage of this opportunity, made substantial investments, and affirm that they would be able to compete in the international markets in absence of government support<sup>93</sup>. But many have survived both as producers and exporters thanks to perks from the government, without being efficient enough.

We will risk the following hypothesis about the main restriction to investment affecting Palm Oil production, to offer an explanation about why poorly designed PDPs have had a relative success in promoting growth and development in this particular case: Palm Oil production is affected by substantial coordination failures due to both large scale economies at the processing plants, that require either huge investments in Oil Palm

<sup>93</sup> From interview with Carlos Antonio Espinosa, one of the largest Palm Oil producers in Colombia.

production (vertical integration) or coordination with a number of smaller Oil Palm plantations located in a particular distance range, to operate at cost efficient levels. This latter option involves contracts able to guarantee recovery of huge long-term investments in Oil Palm. Price differentials and other targeted PDPs facilitated investments in scale and allowed producers to largely bypass coordination needs. If this is the case, the correct question to pose is if alternative policies could have achieved similar results at lower costs.

Can this be a case of successful infant industry protection? Even if this was the case in the beginning, the extremely generous tax incentives of recent years, when the industry was already mature and a consolidated exporter cannot be justified on that ground. They seem the consequence of a traditional rent seeking process, taking advantage of the new priority given to rural public security to which employment in Palm Oil can allegedly contribute. Such incentives might have had some effect on increases in planted area and production, but not on employment, yields or exports, all of which actually fell in this period.

Finally, the appearance of bio-fuels in the picture is good news for the industry. This possibility, that was not foreseen when governments initially decided to favor the Palm Oil industry, may well result in a better cost-benefit evaluation of the PDPs examined in the future.

### **3. Software and Information Technologies (IT)**

#### **a. Sector performance**

Despite having been identified almost a decade ago for its growth potential, its potential spillovers to other productive sectors, and, through them, for its key role as motor for aggregate productivity growth, the Colombian Software and IT sector remains relatively small and with its activity concentrated in the domestic market (only 10% of income comes from export activities<sup>94</sup>). According to DANE's Annual Services Survey (EAS for its acronym in Spanish)<sup>95</sup>, however, between 2000 and 2005 (the last year for which there is data available), average output growth was of 6.5% per year, not insignificant. Also, there was substantial entry of new firms between 2002 and 2004, although this tendency apparently reversed in 2005, and, like output, employment followed a sustained growth trend during the period, unaffected by firm turnover (see Figure 44). In fact, employment growth was more spectacular than output growth: employment went from 10,585 employees to around 20,620 between 2000 and 2005, almost doubling, while output went from USD 403.7 millions to USD 553.8 million, showing an overall increase of 37% over the same period. The result in terms of labor productivity performance is consequently not appealing.

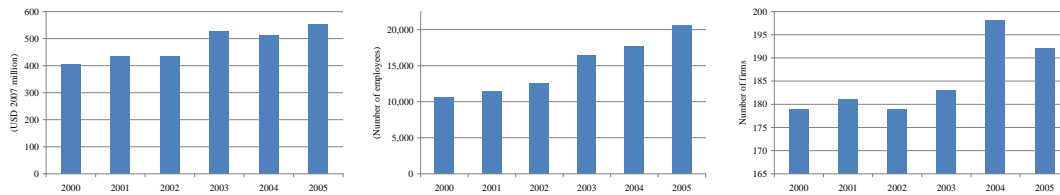
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<sup>94</sup> Source: Software and IT Business Plan, 2008.

<sup>95</sup> DANE EAS is representative for the Software and IT sector until 2005. It samples all legally constituted firms with 20 or more employees, and it includes a probabilistic sample of the legally constituted smaller firms below that size.

Falling labor productivity was accompanied by a trend toward larger firms in terms of employment. The trend of firm size in terms of output is also increasing but not so markedly.

**Figure 43: Output, employment and number of firms**



Source: EAS, DANE and calculations by the authors.

Table 23 completes the sector’s picture by looking at performance by firm size measured by employment, in the most recent year for which data are available<sup>96</sup>. We find a sector composed of a small number of very large firms, of about 1,500 employees on average, that account for 21% of output and 48% of employment, a tier of medium to large firms of 143 employees on average, that account for 60% of output and 37% of employment, another tier of small to medium firms of 39 employees on average, that account for 12% of output and 11% of employment, and finally a larger group of smaller firms of 12 employees on average that account only for 7% of output and 4% of employment.

**Table 23: Statistics by firm size (by number of employees), 2005**

	Output		Number of firms		Employment		Labor productivity USD	Average firm size by employment
	USD million	%	No.	%	No.	%		
Total	554	100	192	100	20,620	100	26,857	107
Less than 25	38	7	76	39	899	4	42,223	12
25 to 64	69	12	56	29	2,176	11	31,685	39
65 to 129	103	19	28	15	2,303	11	44,598	82
130 to 209	81	15	13	7	2,006	10	40,208	155
210 to 434	146	26	13	7	3,390	16	43,029	262
435 and above	118	21	6	3	9,846	48	11,950	1,521

Source: EAS, DANE and calculations by the authors.

## b. Use of policy instruments

The Software and IT sector is newer than both manufacturing sectors reviewed previously, and for that reason government policies explicitly put in place to support it and promote its growth, date to the 2000s. We have identified government efforts on three fronts that should have by now shown their effects on sector performance:

- Financial support programs: “design and development of new software products” has been since the early 2000s among the list of activities/products that may

<sup>96</sup> Size categories are determined by DANE.

access funding through special support programs from at list three public institutions: FOMYPIME, Proexport (through Programa Nacional de Productividad y Competitividad, PNPC) and Colciencias.

- Income tax exemptions: in 2002 rents generated by the development of new software products were declared exempt of income tax for ten years by Law 788 (Article 18).
- Competitiveness Agreement: the government signed a Competitiveness Agreement with the Software and IT sector in 2000, by which both parts committed themselves to actions in the following areas: recognition of the Software and IT industry; improvement of telecommunications infrastructure according to modern technologies; human resources development; legal framework development; adoption of international standards; strengthening of firm management; access to risk capital and strengthening of the sector's business association. A set of concrete actions was agreed upon, and there is a review record available from the Ministry of Industry and Trade stating that of a total of 26 commitments, 14 were complied with, 9 were in progress at the time of the review, and 3 had not been addressed at all. Among the first group, probably the most relevant in terms of their potential impact are those associated to setting quality standards for academic programs in engineering (Decree 792 of 2001), facilitating certified training, and creating a quality certification program (through SENA and PNPC-Proexport<sup>97</sup>). Among the second group, the most salient commitment is about intellectual property rights protection legislation and enforcement and piracy control. Finally, among the commitments not addressed at the time of the review, was a commitment from the Ministry of Industry and Trade to consolidate a risk capital supply for the sector.

Regretfully there is no updated record available of the firms who have directly benefited from the policy instruments that are not targeted sector-wide, but instead require self-selection from the firms' side, like quality certification programs.

More recently, in 2008, as has been mentioned above, the Software and IT sector was object of a jointly developed Business Plan with the government. This plan offers a diagnostic of the Software and IT sector and its potential vis a vis international markets, and, in similar spirit to the previous Competitiveness Agreement, it identifies a set of actions to facilitate the sector's development. The list of restrictions and actions required to overcome them coincides in many cases with those included in the Competitiveness Agreement, revealing that even where commitments were deemed complied, there still is room for improvement. Table 24 summarizes the "market failures" and interventions to address them identified<sup>98</sup>.

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<sup>97</sup> At the time of the review 19 firms had been certified.

<sup>98</sup> Taken directly from the Software and IT Business Plan.

**Table 24: Market failures identified and actions agreed upon**

Market Failure	Horizontal actions	Vertical actions
Poor of insufficient human capital	<ol style="list-style-type: none"> <li>1. Development of inter-institutional programs</li> <li>2. Design of short term bilingual programs</li> <li>3. Strengthening of bilingual education in school</li> <li>4. Design of financial instruments for education</li> <li>5. Development of information systems for education monitoring</li> <li>6. Diffusion programs in education institutions</li> </ol>	
Regulatory inadequacy	<ol style="list-style-type: none"> <li>7. Ajustment of regulations affecting the industry: customs, trade, exchange rate and accounting</li> <li>8. Monitoring of telecommunication and information services regulation</li> <li>9. Promotion of double taxation agreements with strategic countries</li> <li>10. Design of public/private promotion funds</li> <li>11. Design of financial instruments</li> </ol>	<ol style="list-style-type: none"> <li>1. Improvement of tax benefit for technological information content</li> <li>2. Design of an offset program for public purchases</li> </ol>
Insufficient product development and lacking production capacity	<ol style="list-style-type: none"> <li>12. Development of business associations</li> <li>13. Development of commercialization channels</li> <li>14. Quality certification</li> <li>15. Promotion of foreign investment</li> <li>16. Design of a private investment fund, supported by Bancoldex</li> <li>17. Promotion of private intervention in government programs</li> </ol>	<ol style="list-style-type: none"> <li>3. Stregthening of individual property rights</li> <li>4. Support to public programs that promote productive transformation</li> </ol>
Poor or insufficient infrastructure services	<ol style="list-style-type: none"> <li>18. Design of technological parks</li> <li>19. Access to telecommunication channels</li> </ol>	

Source: Business Plan IT Services

The jargon used in the Software and IT Business Plan resembles that used in the call for papers that gives origin to this document. Policy actions are classified as horizontal or vertical, and associated to restrictions to investment tagged as market failures. The category “regulatory inadequacy category” packs, however, actions that correspond to solving government failures (adjustment of existing regulations, monitoring of existing regulations), with others that are more likely associated to other types of market failures (design of promotion funds, design of financial instruments), and other of the problem category labels could probably be revised to directly state the information or coordination externalities that the policy action agreed upon is expected to address.

Interestingly, out of 23 necessary interventions identified, 19 are presented in the Business Plan as horizontal policy requests, and only 4 are openly associated to specific needs of the Software and IT sector. Some would argue, however, that horizontal policy actions often turn out to be very sector specific in practice. This reflection should serve to somewhat moderate our conclusions with respect to the desirable degree of transversality of adequately designed PDPs.

### c. Conclusions

The Software and IT sector's development is still recent. The study of its case is however, appealing, since it combines both tracks of policy-making described in Chapter II. Identified in the early 2000s as a "strategic" sector, it has been object of pervasive tax exemptions, and of overlapping funding programs from various government institutions, and also, simultaneously, has been a pioneer sector in the two more recent attempts of a new way of policy-making that intends to identify good policies through close interaction with the interested private parties, Competitiveness Agreements and Business Plans.

Neither tax exemptions nor the proliferation of wide-scope funding programs can be justified on grounds of the market (or government) failures identified in the 2008 Business Plan, nor on their impact on productivity performance. Insufficient human capital, quality standards and certification, and intellectual property rights protection adequately conceived and enforced are at the root of the problems preventing the Software and IT sector to grow at its full potential. These are the "activities" at the root of the coordination failures holding back this sector, and for this reason the requests for policies in these categories in Table 29 are well justified and would, if implemented, represent good policy. The request for "tax benefit improvements" is for the same reason, suspect. It is conceptually related to "regulatory inadequacy" but does not really address an identified market failure, and comes from a sector that is already exempt from income tax on new product development.

While Business Plans indeed represent a progress in terms of traditional policy-making, in particular with regards to the process of eliciting the needs from the private sector, reflections in the previous paragraph serve well to present two concerns about the shape they can take in practice. The first has to do with the overlap of policies that come out of the joint exercise that gives origin to a Business Plan and targeted policies already in place. Business Plans should consolidate the full set of policies addressing the particular sector needs, but not automatically "absorb" policies already in place that do not respond to the particular needs identified. So the concern is about political interference in Business Plans and the government's capacity to eliminate all other targeted policies once the Business Plan is in its final shape.

The second concern is about implementation enforcement. While it is true that Business Plans go some steps forward relative to Competitiveness Agreements, there is no guarantee that the interventions identified will take place in a given time frame. They also require the compliance of more than one government institution and some of the interventions require going through Congress. So there is a risk that Business Plans do not materialize or materialize in shapes different to those originally conceived. So Business Plans are originated through a process that is an example of good policy-making according to the more recent literature, and do have merit as potential route maps. But they cannot be automatically qualified as "good policy" without revising their contents, which may include "good" and "bad" policies, and it remains to see how they translate in actual policies; so the jury is still out.



## **VI. Conclusions**

In Colombia, use of sector-specific or region-specific PDPs as well as of more horizontal incentive policies has been extensive, despite the fiction maintained until recently of moderate government intervention. PDPs, with few exceptions, have been rarely associated in speech to market failures that must be addressed - this is particularly true for vertical PDPs targeting sectors or particular groups of firms-. More commonly, PDPs have been connected to economic reactivation or ‘competitiveness’, a term that until recently dominated the policy-making jargon justifying a mixed set of policies tied up by loose rationality. There has always been also a set of PDPs that, in spirit of “second best” policies, address government failures deemed to be more difficult to correct by first best interventions.

However, the shift from protectionism towards a more open economy in the early nineties has led to a change in productive development policies in Colombia. Up to the eighties traditional “industrial policies”, based on selective trade protectionism, tax incentives and subsidized credit for “strategic industries”, prevailed. There were no open consultations with the private sector and opaque rent seeking influences were generalized. But, since then, Colombia has made progress in structuring a well designed institutional setting for PDPs, sufficiently embedded within a network of linkages with private groups to elicit information about the constraints and opportunities facing the private sector that require government intervention. This has been a process of trial and error that started with liberalization in the early 1990s and that, while still lacking in many dimensions, is starting to reflect in some interesting courses of policy action. In this setting, at least in theory, the State’s role is seen more as that of a coordinator and specific public goods provider rather than that of a provider of subsidies and protection. There are some quite promising developments, in particular the creation of a Private Competitiveness Council that has been accepted by the Government as the main counterpart in structuring the “competitiveness and productivity” system of participative PDP policy formulation and the joint elaboration of “business plans” for selected sectors, through a rigorous process that mix technical scanning with some competition for limited Government resources.

However, several concerns remain. The first one relates to the “sustainability” of this process, as since the early nineties every new Government (including the transition from Uribe’s first to second administration) has substantially changed the institutional structure, the process and the policy contents. The presence of the Private Competitiveness Council might help giving more continuity to the present structure towards the future. The second one refers to implementation. Though some ministries and Government agencies (those led by more technocratic ministers and directors) are clearly committed to the more modern PDP process and contents, specially to the selected “business sector plans”, some key ministries and agencies (specially in agriculture and transport infrastructure) are not bound by this process and continue to carry on a more traditional clientelistic and rent seeking policy agenda. More generally, the new institutional setting for PDP design coexists with the traditional clientelistic track of policy-making, in which economic groups and other private actors obtain rents (tax cuts,

public subsidies, etc) by entering in transactions with Government and Congress... As a consequence, the overall set of PDPs in place still lacks coherence and is often not guided by a sound open process of organized policy consultation with the private sector. In fact, clientelistic practices and rent seeking, and as a consequence tax incentives and subsidies that can not be justified by market failures, have actually increased in intensity in recent years, alongside with the institutionalization of a parallel modern participatory PDP process. Why this has happened and if and how these parallel tracks will eventually converge remains an open question for fruitful future research.

These tensions are apparent in the more detailed analysis that we conducted on both specific horizontal and vertical interventions. With respect to the former category of horizontal interventions, we found that, although there has been significant progress in designing export promotion policies to address actual market failures (linked to the process of opening of new export lines and markets –Proexport services-) or Government failures (the duty drawback system), and to reduce subsidies in export credits (through Bancoldex), there have been some important reversals in other aspects. In particular, export subsidies (CERTs) that had been previously eliminated, were temporarily restored for some vocal export sectors allegedly to “compensate” for currency appreciation pressures. Worst, in reforming Export Zones to conform to WTO agreements, a new regime of highly discretionary FTZ advantages for large investments was created which is creating major distortions among similar firms. We also found that policies to support access to finance for microfirms and SMEs have evolved in a way that relates better to potential market failures, while SME credit subsidies have been significantly reduced. On the other hand, training policies remain dominated by a virtual monopoly of a public institute generously financed by an earmarked tax on wages, that does not have the ability to adjust to changing needs determined by the fast pace of technological progress and a more complex economy, and that has successfully resisted several attempts to institute a more competitive system of training services.

In the second category of vertical interventions we analyzed the cases of two mature sectors that have been object of multiple policies over the years (Textiles and Apparel, and Palm Oil) and of a younger sector that has been more recently identified as a strategic sector for economic growth. In the first two cases we found it is hard to relate benefits in a discernible way to market failures, or to productivity increases. In fact, government support seems to have allowed the survival of productive units that would have otherwise exited the industry, hurting aggregate productivity. In the case of Palm Oil, where coordination failures pose a significant restriction for growth, government support appears to have been useful to bypass these failures by facilitating production at larger scales. However it did so at a much higher cost than would have represented to address the source of the coordination failures directly. Finally, in the case of Software the more modern Business Plan approach to develop a competitive sector coexists with tax incentives and other traditional interventions. The government faces the challenge of transiting to a unified PDP system that is all encompassing: Business Plans must only absorb the policies in place that are justified by the restrictions to productive investment identified by the private actors, and not automatically “absorb” policies already in place that do not respond to the particular needs identified. So there is the remaining concern

about political interference in Business Plans and the government's capacity to eliminate all other targeted policies once a Business Plans is in its final shape.

We close with two final reflections. The first is that while vertical policies targeting the origin of coordination failures affecting particular sectors can be justified in a case by case basis, Colombia must continue in the effort to adequately provide a basic set of horizontal public goods that are productivity enhancing to all private actors: improved basic education, adequate infrastructure services, further red-tape reduction, advances in quality control and certification, a working competition policy. These policy areas have a central place among policy requests by the private sector and their provision has the potential of multiplying the impact on productivity of all other policy efforts.

The second and final remark is that efforts towards "good" policy making must be complemented with an additional effort to reach firms and sectors that, while not traditionally participants in consultation processes, may contribute significantly to aggregate productivity once the information and/or coordination failures facing them are solved. So far, efforts to bring the private sector closer to the policy making process have been to a large extent restricted to the larger actors.

## References

- Arbeláez M.A. and M. Meléndez (2006), “Gobierno y Sector Privado: Oponentes o Aliados en el Proceso de Desarrollo?”. *Coyuntura Económica*, Vol. XXXVI No. 2 segundo semestre de 2006.
- Arbeláez, Meléndez and León (2007). The Emergence of new successful export activities in Colombia. Fedesarrollo.
- Alonso, G. (1993), “La oferta de exportaciones menores en Colombia, 1970– 1992”, *Coyuntura Económica*, Vol. XXIII, No. 2.
- ANIF in association with Bancoldex, IDB and Banco de la República. (2006, 2007) SME Survey.
- Arize, A. (1999), “The Demand for LDC Exports: Estimates from Singapore”, *The International Trade Journal*, Vol. XIII, No.4.
- Asobancaria (2007), “Alternativas de financiamiento para el desarrollo de las pymes”, Powerpoint Presentation
- Barrera, F. and A. Corchuelo. (2004) SENA’s returns: A re-evaluation.
- Beck, Thorsten, Demirguc-Kunt, Asli and Levine, Ross, “Law and Firms' Access to Finance” (July 2004). World Bank Policy Research Working Paper No. 3194.
- Beck, Thorsten, Asli Demirguc-Kunt, Vojislav Maksimovic; *Journal of Money, Credit & Banking*, Vol. 36, 2004.
- Berry, Albert. Valoración de políticas de apoyo a la pequeña empresa: Primera aproximación a una metodología regional. IADB 2002. Annex for Colombia by Beatriz Marulanda.
- B.O.T. Concesiones de Gerencia (2006). “Rediseño del arreglo institucional de la política de productividad y competitividad actual. Documento de Diagnóstico”. Power Point Presentation consultancy report.
- Botero, Carmen H. y Adolfo Meisel (1988); “Funciones de oferta de las exportaciones menores colombianas”; *Ensayos Sobre Política Económica*, No. 13.
- Burki, Perry, Gill, Guasch and Maloney (2002) “Closing the gap in education and technology”, WB.

Caballero, R., Corbo, V. (1989) The effect of real exchange rate uncertainty on exports: empirical evidence. The World Bank Economic Review.

Cárdenas M. and S. Rozo. (2008) “Informalidad empresarial en Colombia: alternativas para impulsar la productividad, el empleo y los ingresos”. Fedesarrollo.

CONPES (1994) “Por una Colombia competitiva”. Policy Document No. 2724

CONPES (2004) “Agenda interna para la Productividad y Competitividad”. Policy Document No. 3297.

CONPES (2004), “Optimización de los instrumentos de desarrollo empresarial”. Policy Document No. 3280

CONPES (2006), “Institucionalidad y principios rectores de política de productividad y competitividad”. Policy Document No. 3439.

CONPES (2008), “Política nacional para la transformación productiva y la promoción de las micro, pequeñas y medianas empresas: un esfuerzo público-privado”. Policy Document No. 3484

CONPES (2008), “Política nacional de productividad y competitividad”. Policy Document No. 3527.

CAF and Corporación de Calidad. Evaluacion de convenios de competitividad exportadora. Bogota, 2002.

Cunningham W. (2000)

De Ferranti, D., G. Perry, D. Lederman, W. Maloney (2002). Chapter 4 in “From natural resources to the knowledge economy”. The World Bank.

De Ferranti, D., G. Perry, I. Gil, J. L. Guash, W. Maloney, C. Sánchez-Páramo, N. Shady (2002). Chapters 1 and 3 in “Closing the gap between education and technology”. The World Bank.

De La Torre, Augusto, Gozzi, Juan Carlos and Schmukler, Sergio L., Innovative Experiences in Access to Finance: Market Friendly Roles for the Visible Hand? (August 1, 2007). World Bank Policy Research Working Paper No. 4326.

Echavarría, Juan José (1980); “La evolución de las exportaciones colombianas y sus determinantes: un análisis empírico”; Revista Banco de la República, Vol. LIII, No.633.

Economía y Política. No.34. Fedesarrollo. Bogotá. 2008.

Eslava, M., J. Haltiwanger, A. Kugler and M. Kugler. 2004. "The effects of structural reforms on productivity and profitability enhancing reallocation: evidence from Colombia." *Journal of Development Economics*, 75: 333-371.

Eslava, M., M. Meléndez. 2009. "Politics, policies, and the dynamics of aggregate productivity in Colombia". Manuscript, IDB.

Fernandes, A. 2003. "Trade Policy, Trade Volumes and Plant-Level Productivity in Colombian Manufacturing Industries." The World Bank, Policy Research Working Paper Series.

Florez, Luis Bernardo. MISAS, Gabriel. La competitividad y el plan del salto social. Bogotá. July 2008.

Garay, Luis J. (1998) Colombia: estructura industrial e internacionalización 1967-1996.

Gaviria, A. and J. Nuñez. 2003. "Evaluating the Impact of SENA on earnings and employment". *Archivos de Economía* 002646. Harrison A. and A. Rodriguez-Clare (2008). "Industrial policy for developing countries", manuscript.

Gómez, Hernando José. Competitividad empresarial y desarrollo regional. Consejo Privado de competitividad, Universidad Javeriana de Cali, June 2008. Powerpoint presentation.

Harrison and Rodriguez-Clare (2007), "Trade, Foreign Investment, and Industrial Policy", mimeo.

Hausmann and Klinger (2007), "Achieving Export Led Growth in Colombia", mimeo.

Hausmann R. and B. Klinger (2006), "Structural Transformation and Patterns of Comparative Advantage in the Product Space", mimeo.

Hausmann R. and Rodrik, D. (2003) "Economic Development as self-discovery" Harvard University.

IDB (2006), "Acceso de las pequeñas y medianas empresas al financiamiento". Grupo DFC.

Imbs, J., y R. Wacziarg (2003). "Stages of Diversification," *American Economic Review*.

Lederman, D., W. Maloney. (2007). "Trade structure and growth" in "Natural resources: neither curse nor destiny". The World Bank and Stanford university Press.

Levine , Loayza, and Beck "Financial Intermediation and Growth: Causality and Causes" (*Journal of Monetary Economics*, August 2000, v16, n1: 31-77).

- Levine, R (2004). “Finance and Growth: Theory and Evidence”. NBER Working paper.
- Maloney, W., G. Perry. (2005). “Towards an efficient innovation policy in Latin America”. *Cepal Review* 87, December.
- Medina P., M. Meléndez and K. Seim (2003) “Productivity dynamics of the Colombian manufacturing sector”, CEDE Working Paper No. 2003-23.
- Meléndez, M, K. Seim (2006) “Trade Policy Reform and Productivity: The Colombian Manufacturing Sector from 1977 to 2001, mimeo Fedesarrollo.
- Meléndez, M., A. Harker (2007) “Competitiveness and growth in Latin America and the Caribbean: Revisiting economic growth in Colombia – a microeconomic perspective”, IDB. Working Paper CSI-112, CO-P1082.
- Mesa, F., M. Cock, A. Jiménez (1999), “Evaluación Teórica y Empírica de la exportaciones no tradicionales en Colombia”, *Revista de Economía del Rosario*.
- Middleton, John, Adrian Ziderman and Arvil van Adams (1993) “*Skills for Productivity*”. New York, Oxford University Press.
- Misas, M., M.T. Ramírez, L.F. Silva (2001), “Exportaciones no tradicionales en Colombia y sus determinantes”, mimeo Banco de la República.
- Ministry of Industry and Trade (2008), *Business Plan IT Services*.
- Ocampo, J.A., L. Villar (1993); “Colombian manufactured exports 1967-1991”, in *Manufacturing Export in the Developing World: problems and possibilities*, New York: Routledge.
- Perry, G., O. Arias, P. Maloney, A. and J. Saavedra (2007), “Informalidad: Escape y exclusión”, *Estudios del Banco Mundial sobre América Latina y el Caribe*, World Bank.
- Perry, G. (2008). “El Legado económico del Gobierno Lleras Restrepo”, mimeo Fedesarrollo.
- Private Council for Competitiveness (2008), “Colombian Competitiveness Report”.
- Quintero, A. (1997); “Modelo de exportaciones no tradicionales en Colombia: una aplicación del procedimiento máximo verosímil de Johansen”, mimeo Universidad de los Andes.
- Reinhart, C (1995), “Devaluation, Relative Prices, and International Trade Evidence from Developing Countries”, *IMF Staff Papers*, Vol 42, No. 2.
- Rodrik, D. (2004) “Industrial policy for the twenty-first century”. Harvard University.

Salazar, N. and M.F. Guerra (2007). “El acceso al financiamiento de las MIPYMES en Colombia: el papel del Gobierno”, mimeo Fedesarrollo.

Singa, J.P. (2007), “ILO Database on Exporting Processing Zones”.

Steiner, R y A. Wüllner (1994), “Efecto de la volatilidad de la tasa de cambio en las exportaciones no tradicionales”, Coyuntura Economica, Vol. 24, No. 4.

Tybout, James R. and Roberts, Mark J. (1997) The Decision to Export in Colombia: An Empirical Model of Entry with Sunk Costs. The American Economic Review, Vol. 87, No. 4.

Urrutia, M., C. E. Posada, A. Pontón and O. Martínez (2001), “Exportaciones no tradicionales de Colombia”, Borradoresde Economía, Banco de la República, No 170.

Villar, L. (1984), “Determinantes de la evolución de las exportaciones menores en Colombia, 1960-1981”, Coyuntura Económica, Vol. XIV, No. 3.

Villar, L.(1992); “Política cambiaria y estrategia exportadora”, en Apertura dos años después, Asociación Bancaria y de Entidades Financieras de Colombia.

Volpe C. and J. Carballo (2008) ”Heterogeneous Activities and Heterogeneous Effects: The Impact of Export Promotion on Developing Countries’ Firm Performance”, mimeo, IDB.

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## Appendix 1

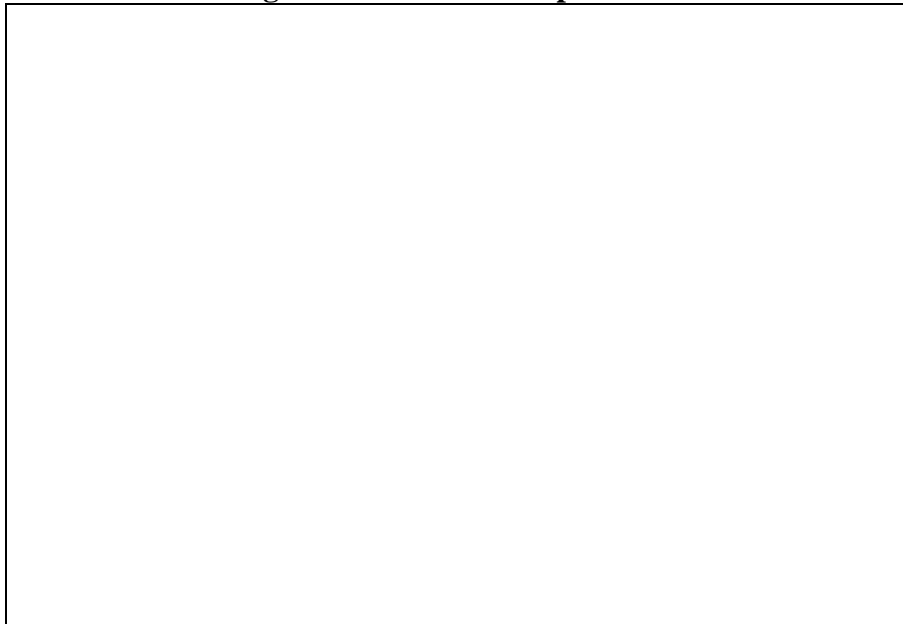
### 1. Domestic Agenda for Productivity and Competitiveness

The National Planning Department keeps a case by case record of the policy requests formulated during the Domestic Agenda discussion tables in 2004, and of the government's reactions to those requests since then. This record was made available to the research team for the purpose of this study.

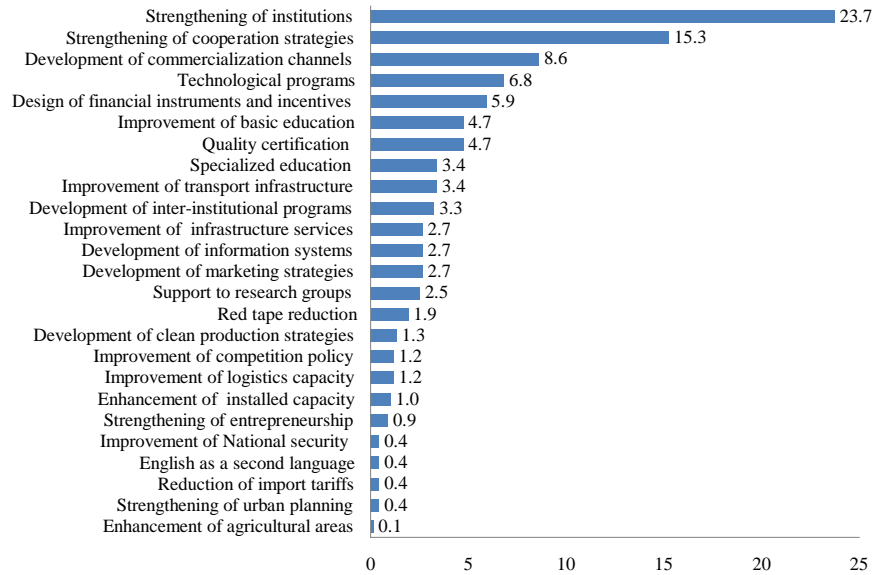
In order to use this information, it was necessary to convert it into a workable database, by assigning codes to text entries. This included coding sectors and regions and also classifying both policy requests and justifications offered in broad categories.

The database consists of 4,079 sector-region entries comprising 25 ISIC 3-digit sectors and 31 departments (geopolitical regions akin to states).

**Figure A1 1: Perceived problems**



**Figure A1 2: Policies requested**



Source: DNP Domestic Agenda database and calculations from the author.

## 2. Fedesarrollo’s Entrepreneurial Opinion Survey (EOS)

Fedesarrollo’s Entrepreneurial Opinion Survey (EOS) is a monthly survey representative for the manufacturing sector at the national level. It is sampled to provide robust results for two types of segmentations: (1) by size (large versus medium and small firms) and (2) by international exposure (exporters versus non-exporters).

In addition to the basic questionnaire, the October 2008 EOS included a thematic module on Productive Development Polices (PDPs) designed for the purpose of this study. 202 manufacturing firms responded.

The assessment of perceived problems obtained by means of the PDP module added to the EOS in October 2008, gives a slightly different picture about the most frequent concerns of the private sector than the records from the Domestic Agenda. Three things may explain the differences: (1) the EOS is representative of the manufacturing sector while the Domestic Agenda was wider in terms of sector reach but selected to only those sectors interested in participating in the policy-making process; (2) the EOS reaches entrepreneurs and not sector representatives; (3) the EOS reaches entrepreneurs that may not participate at all in policy-making, while interaction within the Domestic Agenda by definition occurred with those who participate.

**Table A1 1: Use of policy instruments  
(% over total firms responding each period)\***

Policy instrument	Before 1990	1990 to 2000	2000 to present
<b>Financial instruments</b>			
IFI credit lines	45	44	12
Bancoldex credit lines	48	54	64
Finagro, Caja Agraria o Banco Agrario credit lines	35	33	29
Collateral obtained through Fondo de Garant'as	25	26	23
Export insurance or other insurance with government support	31	30	30
Exchange-rate hedging with government support	25	23	26
<b>Export promotion instruments</b>			
Cat or Cert.	46	54	45
Free export zones	31	36	35
Plan Vallejo	48	53	52
Market information	34	38	43
Fairs and events	41	43	48
Contact with potential clients	37	36	41
ATPA, ATPDEA or other special tariff agreement	31	35	36
<b>Protection from foreign competition</b>			
Tariff protection	59	59	54
Other form of protection	1	1	2
<b>Technological Innovation</b>			
Colciencias funds for technological innovation	42	46	40
Support from Corpoica or Fondos Parafiscales	31	29	26
Incubator program or similar	25	23	20
<b>Tax incentives and/or subsidies</b>			
Income tax exemption or deduction	58	59	60
VAT tax exemption or reduction	51	48	54
Direct subsidy	9	10	9
<b>Training</b>			
Basic training through SENA	69	68	62
Specific training through SENA	57	56	52
Training through other government owned institute	28	26	23
Training through private institute	37	34	31
Training within the firm	48	45	46
<b>Other</b>			
Quality certification program	55	60	62
Phitosanitary certification program	28	29	25
Red tape reduction program	43	43	41

\* Percentages were calculated over the firms responding for the period in question, regardless if they did not provide a response for the other periods.

**Table A1 2: Use of policy instruments by size, 2000 to present**

<b>Policy instrument</b>	<b>Large</b>	<b>Medium</b>	<b>Small</b>
<b>Financial instruments</b>			
IFI credit lines	12	13	11
Bancoldex credit lines	59	80	50
Finagro, Caja Agraria o Banco Agrario credit lines	30	35	11
Collateral obtained through Fondo de Garant'as	15	33	50
Export insurance or other insurance with government support	32	35	11
Exchange-rate hedging with government support	22	37	22
<b>Export promotion instruments</b>			
Cat or Cert.	55	37	17
Free export zones	40	35	11
Plan Vallejo	67	35	17
Market information	41	52	33
Fairs and events	47	52	44
Contact with potential clients	42	48	22
ATPA, ATPDEA or other special tariff agreement	37	39	28
<b>Protection from foreign competition</b>			
Tariff protection	54	65	33
Other form of protection	2	0	6
<b>Technological Innovation</b>			
Colciencias funds for technological innovation	40	46	28
Support from Corpoica or Fondos Parafiscales	29	24	17
Incubator program or similar	21	22	11
<b>Tax incentives and/or subsidies</b>			
Income tax exemption or deduction	62	70	33
VAT tax exemption or reduction	55	65	22
Direct subsidy	9	15	0
<b>Training</b>			
Basic training through SENA	62	67	50
Specific training through SENA	54	59	33
Training through other government owned institute	24	22	17
Training through private institute	38	20	28
Training within the firm	51	37	44
<b>Other</b>			
Quality certification program	64	59	61
Phitosanitary certification program	29	22	17
Red tape reduction program	41	48	28

**Table A1 3: % firms rating instrument as inadequate, 2000 to present  
(over total firms responding)**

Policy instrument	Total	Large	Medium	Small
<b>Financial instruments</b>				
IFI credit lines	36	38	38	33
Bancoldex credit lines	50	42	58	43
Finagro, Caja Agraria o Banco Agrario credit lines	49	50	50	33
Collateral obtained through Fondo de Garant'as	34	40	33	20
Export insurance or other insurance with government support	31	32	29	33
Exchange-rate hedging with government support	42	35	50	50
<b>Export promotion instruments</b>				
Cat or Cert.	65	68	70	43
Free export zones	36	35	40	0
Plan Vallejo	32	27	36	33
Market information	40	29	48	50
Fairs and events	42	43	41	40
Contact with potential clients	38	31	43	50
ATPA, ATPDEA or other special tariff agreement	37	31	44	33
<b>Protection from foreign competition</b>				
Tariff protection	50	58	44	33
Other form of protection	60	50	0	100
<b>Technological Innovation</b>				
Colciencias funds for technological innovation	40	36	42	45
Support from Corpoica or Fondos Parafiscales	36	33	40	43
Incubator program or similar	35	33	38	33
<b>Tax incentives and/or subsidies</b>				
Income tax exemption or deduction	40	33	49	33
VAT tax exemption or reduction	45	39	51	43
Direct subsidy	48	-	64	0
<b>Training</b>				
Basic training through SENA	34	33	35	36
Specific training through SENA	33	36	23	45
Training through other government owned institute	37	36	42	33
Training through private institute	30	30	33	25
Training within the firm	34	36	30	40
<b>Other</b>				
Quality certification program	23	21	18	43
Phitosanitary certification program	28	28	25	33
Red tape reduction program	29	27	29	40

**Table A1 4: % firms rating instrument as inadequate  
(over firms reporting use of policy instruments in all periods)**

Policy instrument	Before 1990	1990 to 2000	2000 to present
<b>Financial instruments</b>			
IFI credit lines	17	16	38
Bancoldex credit lines	24	11	16
Finagro, Caja Agraria o Banco Agrario credit lines	27	27	39
Collateral obtained through Fondo de Garant'as	43	36	29
Export insurance or other insurance with government support	69	48	38
Exchange-rate hedging with government support	65	61	54
<b>Export promotion instruments</b>			
Cat or Cert.	16	21	56
Free export zones	41	32	23
Plan Vallejo	24	10	9
Market information	53	32	25
Fairs and events	53	36	31
Contact with potential clients	68	47	38
ATPA, ATPDEA or other special tariff agreement	45	26	22
<b>Protection from foreign competition</b>			
Tariff protection	25	33	41
Other form of protection	100	100	100
<b>Technological Innovation</b>			
Colciencias funds for technological innovation	64	50	49
Support from Corpoica or Fondos Parafiscales	76	69	62
Incubator program or similar	70	61	52
<b>Tax incentives and/or subsidies</b>			
Income tax exemption or deduction	48	44	31
VAT tax exemption or reduction	49	42	41
Direct subsidy	75	0	75
<b>Training</b>			
Basic training through SENA	38	24	24
Specific training through SENA	45	28	27
Training through other government owned institute	58	54	54
Training through private institute	29	27	18
Training within the firm	27	16	15
<b>Other</b>			
Quality certification program	47	22	14
Phitosanitary certification program	54	31	27
Red tape reduction program	70	49	31

**Table A1 5: Most desired policies  
(% over total firms responding)**

	Total	Large	Medium	Small
Tax reduction	17	19	19	13
Lower costs of financing	12	7	13	25
Improvement of infrastructure services	11	12	13	
Reduction of payroll taxes	11	7	16	25
Tax rule stability	6	10		
Control to smugglers	6	7		13
Tariff reduction (inputs)	6	4	6	13
General support	6	3	13	
Protection from imports competition	5	7		
Exchange rate stability	5	3	9	
Reduction of labor market rigidities	2	3		
Better integration agreements	2	3		
Red tape reduction	2	1	3	
Technological innovation and R&D	2	1	3	
Training	2		3	13
Tax incentives for investment	2	3		
Policy transparency	2	3		
Access to financing	1		3	
Fairs	1	1		
Incentives for foreign investment	1	1		
National security	1	1		

**Table A1 6: Participation in PDP policy-making  
(% over total firms in each category)**

	Total		Large		Medium		Small	
	Yes 30	No 70	Yes 38	No 63	Yes 16	No 84	Yes 29	No 71
<b>Participation in the formulation of policies</b>								
<b>If affirmative:</b>								
Participated before 1991	11		18		3		0	
Participated in the 90's	14		20		3		9	
Has participated in the present decade	27		33		15		26	
<b>Participation has been:</b>								
Direct, through firm manager or special office	13		15		6		20	
Direct, through a professional lobbyist	2		3		0		0	
Through a business association	15		18		10		8	
Other	1		2		0		0	
<b>Participation in the context of:</b>								
Negotiations of Competitiveness Agreements	4		5		3		0	
Discussion of Domestic Agenda	5		7		0		10	
Formulation of National Development Plan	1		2		0		0	
Communal Councils	2		2		0		5	
Business association initiatives	16		20		11		14	
Other	2		2		1		0	
<b>Participation mechanisms are:</b>								
Adequate because the government provides sufficient spaces for participation	3		6		1		0	
Only for firms represented by a business association	11		13		7		9	
Only for large firms	6		6		3		13	
Only for groups with political power in the regions	6		7		3		4	
Not working due to lack of mechanisms to implement the policies formulated.	4		5		1		4	

**Table A1 7: Participation in PDP policy-making  
(% over participating firms in each category)**

	Total	Large	Medium	Small
<b>If affirmative:</b>				
Participated before 1991				
Permanently	35	29	100	-
Sporadically	65	71	0	-
Participated in the 90's				
Permanently	36	33	100	-
Sporadically	64	67	0	-
Has participated in the present decade				
Permanently	39	46	22	17
Sporadically	61	54	78	83
<b>Participation has been:</b>				
Direct, through firm manager or special office	42	40	36	71
Direct, through a professional lobbyist	5	7	0	0
Through a business association	49	48	64	29
Other	4	5	0	0
<b>Participation in the context of:</b>				
Negotiations of Competitiveness Agreements	12	12	18	0
Discussion of Domestic Agenda	17	18	0	33
Formulation of National Development Plan	4	5	0	0
Communal Councils	6	6	0	17
Business association initiatives	55	52	73	50
Other	6	6	9	0
<b>Participation mechanisms are:</b>				
Adequate because the government provides sufficient spaces for participation	10	15	5	0
Only for firms represented by a business association	37	36	43	31
Only for large firms	22	17	21	44
Only for groups with political power in the regions	19	19	21	13
Not working due to lack of mechanisms to implement the policies formulated.	12	14	10	13

**Table A1 8: Participation in PDP policy-making by channel  
(% over total replies of participating firms in each category)**

	Total	Large	Medium	Small
One or more congressmen	60	55	78	67
The President	18	19	11	17
A Minister or Vice-minister	11	10	11	17
Other public officials	7	10	0	0
No response	5	7	0	0



**Table A1 9: Participation in PDP policy-making by channel  
(% over total replies of participating firms reaching each channel)**

	Large	Medium	Small	Total
One or more congressmen	68	21	12	100
The President	80	10	10	100
A Minister or Vice-minister	67	17	17	100
Other public officials	100	0	0	100

**Table A1 10 Participation in PDP policy-making by channel  
(% over total firms in each category)**

	Total	Large	Medium	Small
One or more congressmen	18	21	12	19
The President	5	7	2	5
A Minister or Vice-minister	3	4	2	5
Other public officials	2	4	0	0
No response	2	3	0	0

**Table A1 11: Interaction effectiveness, by channel (%)**

	Successful: a similar policy was implemented	Moderately succesful: a similar policy has some times been implemented	Moderately succesful: the requested policy was not implemented but a compensatory policy was implemented in its place	Not successful: the policy request was denied
One or more congressmen	25	25	25	25
The President	39	50	11	0
A Minister or Vice-minister	20	29	34	17
Other public officials	23	15	15	46
Other channel	38	25	25	13

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