



How and When to Intervene?

Criteria to Guide Interventions to Support Productive Development

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Abstract*

Doubts exist in many Latin American countries regarding the possibility of successfully implementing policies to support productive development. After briefly presenting the theoretical background that justifies this kind of interventions, this document reports on the headway made in the development of criteria to guide the implementation of such policies – the area that has been poorly developed in the experience of the countries in the region.

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I. Rise and Fall of Industrial Policy

How do countries manage to develop activities in which they are competitive? In the classic tradition (Ricardo), this question has a clear answer. International trade enables countries to specialize in activities where they have comparative advantages. These advantages flow particularly from the relative abundance of factors of production. If one country's labor-capital ratio is relatively greater than another's, then that country will specialize labor-intensive goods. These principles were then refined and stylized by modern economic theory through the use of different theorems.¹

In the context of the wave of decolonization that followed World War II, this relatively automatic view of development was questioned and debate began on new ideas about how to boost economic development (Meier and Seers, 1984).² One interesting component of these new approaches was their emphasis on the fact that economic agents could have trouble making decisions to invest the development of certain activities for lack of the complementary investments required to make their own investments viable. For example, a country could hardly develop a machinery and equipment manufacturing industry without sufficient supplies of steel, but no one would invest in producing steel if there were no one to sell it to.³ This was a classic chicken-and-egg problem that the market could not solve. As a result, some authors suggested the need for the State to invest in certain key industries to remove these bottlenecks (for example, Rosenstein-Rodan's "big push" theory), or to stimulate the development of linkages with upstream or downstream sectors based on already existing industries (according to A. O. Hirschman's famous formulation), or to openly favor coordinated action among actors.

Also, in order for companies to learn to master production techniques, it seemed reasonable to establish special stimulus measures for specific sectors or industries. In some cases, mainly in Latin America, these stimulus measures primarily took the form of tariff

¹ Essentially the Heckscher-Ohlin, Stolper-Samuelson and Razcinsky theorems.

² There were, of course, significant precedents, particularly in the German tradition with the early views of Friedrich List, who wrote about a "national economic policy system" when analyzing the development strategy that the country needed (Lall and Pietrobelli, 2005). Joseph Schumpeter is another precursor to the current discussion on innovation and economic development. However, these authors were not recognized by the school of economic thought that became dominant.

³ This was an issue particularly emphasized by Rosenstein-Rodan in his famous article on the challenges of development in Europe's most underdeveloped countries in the 1940s (Rosenstein-Rodan, 1943). It should be noted that in conditions of chronic currency shortage, massive importation was not an option.

barriers to protect (supposedly nascent) industry from outside competition, while in others, such as in south-east Asia, stimulus was essentially financial and was linked to reaching export performance goals in a context in which the State had a strong capacity to encourage (or even oblige) private actors to take certain courses of action (Wade, 1990).

The growing difficulties with sustaining growth and controlling inflation and external imbalances led to gradual disappointment with the results of a development strategy based on the substitution of imports to Latin America. Various studies at the time showed how the implementation of this kind of industrial policy had led in many cases to creating a production structure plagued with inefficiencies, where companies were incapable of competing internationally, but turned profits based on their dominant position in local markets.

As a result, a broad spectrum of authors began to radically question the ability of the State to intervene in productive development in a way that would increase the overall health of the economy.⁴ Furthermore, public sector intervention was capable not only of creating distortions in market functioning (creating an anti-exporter bias, for example), but could also encourage less enterprising and more “rent-seeking” behavior among entrepreneurs themselves.⁵

For Latin American nations, the foreign debt crisis of the early 1980s ended up consolidating a complete policy turn-around in favor of the so-called Washington Consensus, which emphasized market deregulation and the opening up of finance and trade as the cornerstones of economic policy. In this context, there was no place for interventions in productive development; on the contrary, they were openly rejected as expressions of top-down public policies that create more problems than solutions, as the region’s experience had proven.⁶

Without entering the debate as to whether or not the policies implemented in the decades prior to the 1980s had their merits, what is clear is that the need to firmly manage macroeconomic policy to ensure some basic balances became an absolute priority of economic policy, while the different manifestations of what traditionally was known generically as

⁴ Outstanding among them are Little, Scitovsky and Scott (1970), Balassa (1971) and Lal (1983).

⁵ Anne Krueger (1974) coined the term “rent-seeking” to unfavorably define this phenomenon.

⁶ While this is true from the conceptual perspective, it is not always true in practice. In fact, in Chile, where this position was taken as early as the 1970s, public authorities were quite pragmatic. This can be seen in the creation of the Fundación Chile in the mid-70s and the generous subsidy to tree plantations established during the same period. Also, after the crisis of the early eighties, the Chilean Economic Development Agency (CORFO) once again took a more active role in business development.

industrial policy were relegated to the background or, in some cases, directly struck off the agenda.⁷

However, although it was absolutely necessary to make advances in terms of macroeconomic stability and improved market functioning, and although such advances are absolutely necessary for healthy growth, they do not seem to have been enough to achieve this goal. Open trade and deregulation created a strong—and healthy—burst of competition for national companies, but in the absence of policies supporting business competitiveness, an excessive price seems to have been paid in terms of industrial capacity and a shortage of new engines of growth. This has had negative effects on the growth potential of countries in the region, in particular because of the consequences on the productive structure, which was skewed toward low-tech sectors, reflecting the comparative advantages that were revealed (ECLAC, 2008; Katz, 2000).

II. The Return of Active Productive Development Policies: Underlying Concepts

From a conceptual perspective, a reading of the specialized literature reveals four main aspects of the arguments that support a more active State role in productive development. These are associated with: the so-called “new theories of growth”; studies of the implications of incomplete markets and imperfect information; the contributions made by studies on clusters and business networks; and the more recent work of authors such as Hausmann, Klinger and Rodrik on “new industrial policy.” Following is a summary of the main arguments in each of these areas.

i) New Theories of Growth

The new theories of growth break with one of the most traditional ideas of current growth models by showing that a country’s pace of growth is affected by endogenous factors such as the quality of education and the level of innovation. As a result, the prediction that per capita income levels would naturally tend to converge among countries (over the long term) no longer makes sense.⁸ Indeed, the models indicate that as countries implement policies that help raise their capacity to generate and use knowledge in productive processes, they will raise expectations of

⁷ Brazil is the most conspicuous exception.

⁸ See, for example, Romer (1990), Barro and Sala i Martin (1995).

accelerated growth, regardless of the level where they may find themselves at present. The radical implication of this finding is that public policy has a very significant role to play in promoting economic progress, since it can have an impact on how these endogenous growth factors act. In particular, it is very relevant to encouraging innovation.

In fact, studies show that the pace of innovation is directly related to the rate of growth.⁹ However, the production of knowledge through scientific and applied research has some features of a public good, thus requiring State support for its development. At the same time, research and development by private companies (with or without the support of academic or technological institutes) brings with it positive externalities, since the innovation and knowledge acquired tend to “spill over” into their surroundings.¹⁰ This implies that, in the absence of compensatory intervention, innovative business activity tends to remain below optimum levels from a social welfare perspective. It should be noted that arguments along these lines can be projected into various areas of productive development policy that involve high externalities or public good features, such as human resources training, or breaking into new foreign markets.

ii) “New Market Failures”: Imperfect Information and Incomplete Markets

The first theorem of welfare economics derived from the general Walrasian equilibrium model states that all competitive economies are efficient in Pareto terms, and that, as a result, no external intervention can improve the situation. Different theoretical works, mainly following Joseph Stiglitz, have suggested that this theorem is based on two critical suppositions that are not observable in reality. First, it is assumed that perfect information exists and, second, that there is complete set of markets for contingencies of all kinds.

When these conditions are not present, the Greenwald-Stiglitz theorem (1986) shows that there is a potential role for governments to increase welfare through their interventions. This occurs because, when markets are incomplete or information is imperfect, the behavior of agents creates externalities that are not considered. Obviously in less developed countries these problems are made worse by the insufficient development of their markets, or by the very lack of markets in many cases.

⁹ Normally measured as the proportion of R+D in the gross domestic product (GDP).

¹⁰ The protection that patents can provide is not always effective. Furthermore, patents as a mechanism to encourage innovation do not reflect the benefits of failure, when actors are shown which roads are best not to follow.

For example, incomplete information may lead to situations of moral hazard or adverse selection. These problems tend to affect the functioning of credit markets, since the lack of perfect knowledge regarding customers tends to make money-lending institutions raise the amount of collateral they require of companies that are looking for loans to finance their projects. Banks expect the “worst” companies to seek their support and, as a result, they protect themselves by demanding additional guarantees beyond those corresponding to the project itself.

Technical assistance services are another interesting example. The market of services supporting small and medium-size enterprises (SMEs) is usually poorly developed since companies do not have a level of knowledge that enables them to be sure that the contribution of an external consultant will be valuable. At the same time, the most valuable consultants are not willing to offer their services, since they have no opportunity to distinguish themselves from the others in the eyes of business owners. For this reason, public interventions that help develop this market could make sense. Examples abound. In fact, as Stiglitz (1994:43) states in one of his works: “Since virtually all markets are incomplete and information is always imperfect, problems of moral hazard and adverse selection are endemic in all market situations.”

Obviously, intensities vary and some situations are more relevant than others. For the purposes of guiding productive development policy, this focus on “new market failures” and their manifestations has been reflected mainly in interventions that seek to correct failures that affect the functioning of markets linked to factors of production, such as equity markets, financial services, technical assistance, human capital, innovation, etcetera; in other words, failures that affect the functioning of the broad spectrum of economic sectors. This is why these are known as “horizontal” interventions, since they do not discriminate among sectors.¹¹

iii) Clusters and Business Networks: Bringing back Marshall

Although Alfred Marshall suggested in the 1890s, in his *Principles of Economics*, that a set of benefits existed for companies located close to each other, in fact, the reassessment of the benefits of association, networks and coordinated action in a common geographical space as possible bases of public policy in support of competitiveness were more the result of the

¹¹ In practice, if there has been a bias, it has been in favor of having an impact on operating conditions for SMEs, which are more vulnerable to the imperfections created in sectors such as those mentioned above.

observation of specific experiences than of theoretical reflection.¹² Indeed, it was mainly observation of how industrial districts in central and northern Italy function (Pyke et al., 1992), and also observation of other experiences of flexible specialization in certain regions of Europe (Piore and Sabel, 1984), that drew attention to the benefits of collaboration among companies, in contrast to the notion that fierce competition is the only way to promote business competitiveness. These ideas gained greater international recognition and support with the publication of Michael Porter's *The Competitive Advantage of Nations* in 1991. Starting in the 1990s, a number of studies were conducted to identify more or less successful cases of clusters, and a wide body of experience began to accumulate on intervention policies and instruments to support association, including experiences in supporting initiatives in "clusterization," in the functioning of productive chains and in the establishment of networks.¹³

From a theoretical perspective, it is interesting to note the formulations of Barr (2000) and Maffioli (2005), who, in the framework of a Romer-style endogenous growth model, consider interactions among companies to be a factor that favors the effective transmission of knowledge, with a positive impact on the growth rate. Both authors find results to back this hypothesis.¹⁴ Maffioli (2005) in particular shows how public intervention can support the unfolding of these processes by reducing the transaction costs associated with the emergence of collaboration initiatives.

iv) Development as "Self-Discovery" and the New Industrial Policy

International trade theory predicts that countries will tend to specialize in the production of goods that most intensively use the resources available to them in the relatively greatest abundance. However, a huge number of goods and services are produced in the world, so that countries are compared with similar supplies of factors, the family of specific products that each

¹² These benefits include reduced transaction costs in knowledge exchange, the opportunity to achieve economies of scale and scope, the development of specialized suppliers, and the opportunity to more quickly access specialized information on technological and market trends.

¹³ Good summaries can be found in OECD (1999), Söllvell et al. (2003) and Andersson et al. (2004).

¹⁴ It should be noted that the Maffioli (2005) study was based on information from the PROFO development projects in Chile. The PROFOs consist of offering support to at least five companies that decide to act in association toward specific common goals of improved competitiveness. CORFO provides them with up to four years' cofinancing, decreasing over time. A good analysis of the development of this instrument is found in Dini (2009).

of them exports is not the same.¹⁵ Furthermore, the data suggests that in the course of their development, countries tend first of all to specialize in a limited number of products, and then increase the basket of goods in which they are eventually competitive (Lederman and Klinger, 2004).

In an attempt to explain this process, Hausmann and Rodrik (2003) formulated a development model in which a country's growth is driven by its ability to discover new activities in which it can distinguish itself.¹⁶ In this model, entrepreneurial action is key, since in the end it is entrepreneurs who will be the driving force behind successful new industries. But to discover a new activity is a process full of uncertainty. This uncertainty exists even when exploring an activity whose technology is well known around the world, since mastering it requires a learning process (Nelson, 1981), and it may even be necessary to adapt it to make it work in the specific conditions of a given country. Also, launching the new activity usually requires additional investment, which increases the risks and costs that could be incurred.

When an entrepreneur proves that the activity is profitable, many imitators may join the sector, thereby reducing the profits associated with being the first to make the discovery. The “discoverers” run great risks and do not necessarily reap all the profits, but they do generate significant externalities for the growth process. Since the notion of “discovery” does not necessarily suggest radical innovations—but rather usually involves learning and adaptation—new patents cannot protect activities.

Given the uncertainty associated with the discovery process and the difficulty involved in fully appropriating its eventual profits, there tends to be less than an ideal amount of investment made in discovery initiatives.¹⁷ On the other hand, high initial profits can lead to excessive investment once an activity is launched, leading in turn to a loss of resources. In these situations, it is reasonable to make public interventions that encourage investment in initiatives that will lead to new discoveries and that prevent too many imitators from appearing.

Furthermore, in many cases new activities can prosper only if complementary investments are made almost simultaneously.¹⁸ This situation gives rise to the problems of

¹⁵ For example, there is a difference between mass-produced footwear, luxury footwear, and outdoors or sports footwear.

¹⁶ For a small country, this means finding a new product to export.

¹⁷ Venture capital funds largely fulfill this role in the United States.

¹⁸ Particularly in the case of investments that must be made in nontradable sectors.

coordination anticipated by Roseinsten-Rodan, thus adding further complications to the challenge of promoting new activities. The nature of all these challenges means that, from this perspective, public intervention in productive development should not be small in scale.

Indeed, it is suggested that the “new industrial policy” should not be analyzed in terms of the type of instruments used (subsidies, loans, etc.), the areas focused on (training, innovation, technical assistance, etc.) or the sectors it is implemented in, but rather in terms of the capacity to structure a “strategic collaboration between the private sector and the government with the aim of uncovering where the most significant obstacles to restructuring lie and what type of interventions are most likely to remove them” (Rodrik, 2004).¹⁹

Thus, rather defining the set of instruments in advance, what is most important is the “quality of the process.” Incentives and limitations (“carrots and sticks”) must be used, not from a distance, but rather in active interaction with the private sector in order to understand the nature of the problems and to “take careful aim” with the interventions. Certainly, close proximity between public and private actors leads to the risk that the latter could end up “capturing” the State’s initiative to benefit narrow interests. But at the same time, the risk of remaining distant and apart is that public interventions can become irrelevant. In conclusion, there are no simple recipes to guide this new approach to industrial policy. Development institutions must learn to act directly in the support process, gaining experience largely through trial and error. In summary, Table 1 presents the underlying concepts that, according to the currents considered in this paper, justify public intervention in support of productive development, as well as the kind interventions associated with each current.

It is important to note that from a strictly theoretical perspective, the bases of intervention always come back to the existence of market failures. For example, the existence of imperfect information leads to situations in which information asymmetries among actors raise transaction costs, thereby impeding collaboration among companies, even though these companies are individually able to perceive the possible benefits of acting jointly. In this regard, both from the perspective of conglomerates and association capacity, and from the perspective of new

¹⁹ Haussman and Klinger (2007) also suggest that another key is to know where to focus public efforts to support the growth of new, successful industries. They propose a methodology by which possible “jumps” from one kind of production to another can be distinguished. Ideally, countries should try to move toward more sophisticated products that incorporate a higher level of knowledge.

industrial capacity (or self-discovery), these are specific manifestations of market failures in areas that are very relevant to growth.

**Table 1. Underlying Concepts of Interventions
Supporting Productive Development**

Current	Problem considered	Proposed intervention
New theories of growth	Externalities Public goods	Support science, R+D, investment in human capital
“New market failures”	Imperfect information Incomplete markets	Horizontal interventions: Technical assistance, training, market development (financial, capital, etc.)
Conglomerates and networks	Economies of scope and scale Transaction costs	Foment association, provision of club goods
New industrial policy	Transaction costs Externalities	Selective action according to needs

Source: Author’s elaboration.

A complementary way to analyze the possible range of interventions in support of productive development is based on an IDB proposal and is structured around two axes shown in Table 2.²⁰ On one hand, one axis (left to right) distinguishes the level of horizontality or verticality of interventions (or the level of selectivity). The other axis shows whether an intervention is more public or market-based. Accordingly, in the upper left-hand corner there are interventions with a high level of public good, in particular those that improve the general business environment. By contrast, in the bottom right corner there are those that have limited beneficiaries and operate through market mechanisms. The upper right-hand corner shows interventions that depend on public mechanisms but which are very sector-specific, while in the lower left-hand corner there are market-based horizontal instruments.

²⁰ See IDB (2008): Terms of Reference RG-P1343 Productive Development Policies in Latin America and the Caribbean. An IDB Research Project Country Departments – Research Department.

Table 2. Scheme for the Classification of Interventions Supporting Productive Development

H	“Transversality”		V
Public input P	<ul style="list-style-type: none"> -Tax regulations - English language training for technical workers 	<ul style="list-style-type: none"> -Sector infrastructure -Regional development strategies - Tourism campaigns 	
Market intervention M	<ul style="list-style-type: none"> -Business innovation - Capacity for association - Open business development services - Programs supporting certification 	<ul style="list-style-type: none"> -Dedicated R+D -Technological consortiums -Support for clusters - Support for forestation - Safeguards 	

Source: IDB (2008).

This way of presenting programs is interesting in two ways: First, it enables one to appreciate the diversity of intervention options available to governments to foment productive development. In this regard, the great challenge is to achieve a real understanding of the problems and challenges facing companies and of the public sector’s capacity to carry out interventions. For example, in principle, interventions based on market mechanisms require a public sector with the capacity to establish incentives, which calls for abilities different than those needed for direct interventions. Second, the scheme also enables one to appreciate the levels of appropriation of benefits by users (beneficiaries of programs). This is useful as a tool for studying interventions that are currently underway, since the public sector is very often not fully aware of the impact of some of its interventions, and it is common to hear certain authorities deny the existence of selective interventions in support of productive development in their country.

III. How to Intervene?

The brief review above leads to the conclusion that there is a wide range of arguments, solidly backed by theory, that justify governments taking an active role in support of productive development. However, this does not necessarily lead to the conclusion that public intervention will improve the situation. Powerful arguments have been made in the past to back public action in this field and the results have not always been those expected; in fact, things have sometimes turned out worse than if there had been no intervention at all. While the arguments in favor of public intervention may now be more refined and have more solid theoretical underpinnings, this does not mean that the State is able to properly implement the recommended interventions.

In the same way that market functioning is affected by “failures” that lead to less than Pareto-perfect results, the Government is also exposed to different “failures” in its actions. As a result, we must identify these threats and develop criteria to guide public action so as to prevent failures from materializing.

i) “Government Failures”

There are four major problems that tend to have a negative effect on public sector performance in support of productive development. Similar to the so-called market failures, these can be presented under the banner of “Government failures.” These are the risk of “capture,” problems of inconsistency, problems of “agency,” and the risk of market substitution. Each of these is considered below.

- **Dynamic inconsistency:** refers to the risk that public policies may not be maintained and may not be mutually coherent over time. This problem often affects productive development policies, since the results of interventions very often take time to bear fruit. In a context in which authorities are under pressure to show short-term results, they tend to favor short-term goals with high political returns, thereby endangering the permanence of efforts to support productive development. It is also common for new authorities not to continue with initiatives launched by their predecessors, which also generates inconsistency over time.²¹

²¹ There is abundant literature on the lack of coherency among political and economic cycles. See, for example, Alesina et al. (2003).

- “Agency failures”: refers to the risk that no clear roles may exist in terms of who gives and who receives orders in policies and programs, and that there may be no way to observe the performance of the party receiving them. In many cases, institutional designs do not clearly define the roles that correspond to the different policy levels; that is strategic planning, policy design, and implementation. As a result, certain agencies that should be focusing on policy design and management (such as government ministries) also implement programs (for which they usually have neither a proper administrative framework nor the specific competencies that are necessary). At the same time, due to asymmetrical resources and information, some very powerful agencies end up not following ministerial guidelines and strategies. The lack of clarity in the roles of principal and agent in the area of productive development helps explain the proliferation of poorly articulated initiatives and the lack of coordination very often seen in this field in Latin American countries.
- “Capture”: refers to the risk that beneficiaries of interventions could obtain privileged treatment and greater profits. This risk responds not only to possible acts of favoritism or corruption in public initiatives, but sometimes reflects bureaucratic inertia: institutions do not play a proactive role, neither bothering to encourage new customers and users to join the system nor making new instruments available for use.
- Market substitution: refers to the risk that public interventions may not aim to improve the functioning of the market, but rather substitute it in its role as the allocator of resources. Probably the best known version of this risk is the classic idea of "picking the winners," which refers to a State deciding on its own to stimulate development in a specific sector or activity, without any consideration of whether the support it is providing is justifiable. Another classic example of this risk is when the public sector replaces entrepreneurs in decisions on initiatives to improve their businesses.

ii) Criteria to Guide Interventions to Support Productive Development

- A. *Specify responsibilities at the levels of strategy, policy, and implementation.* The institutional organization of the system supporting productive development should

attempt to clearly distinguish who is responsible for each of these functions, and provide each of them with the necessary tools to do their work.²²

- a) **At the strategy level:** since support for productive development involves medium- and long-term objectives, it is useful for countries to have a strategy to identify and prioritize objectives that normally extend beyond the term of any given government. This perspective should be the result of a general agreement among public and private players, with the broadest possible representation, expressing a solid national consensus. The strategy should avoid merely reflecting the interests of the different groups and sectors represented. Ideally, it should be based on serious studies and should eventually take into account international comparisons that will indicate what goals are to be reached and on what schedule. Although the national experiences differ, this responsibility is usually assumed by some kind of independent council, some of whose members change when a new government takes office, in order to ensure a continuity of vision. The strategy should be reviewed periodically and it is highly advisable for the council that leads it to have a technical office with high-level professionals and resources to carry out studies and dissemination initiatives.
- b) **At the policy level:** governments receive a mandate to lead their countries a given period of time. They can therefore legitimately set priorities and establish new ways of doing things. If a strategic exercise is indeed the fruit of having built a broad national consensus—and keeping in mind that the strategy should be updated periodically—it can be assumed that the role of government ministries, under presidential guidance, consists of determining the form, pace, and resources for the implementation of strategic directions, including legal and regulatory initiatives. At this level, it is of the utmost importance to clearly establish responsibilities for the policy goals that have been set. To

²² Devlin and Moguillansky (2009) present an interesting analysis of the institutional forms adopted by countries that have successfully developed in recent years.

reduce the level of entropy in productive development activities, it is essential to clearly establish who is responsible for the productive develop objectives and to equip those responsible with the implementation capacity and resources they need to play their role.

- c) **At the implementation level:** the design and implementation of instruments and programs is the privileged space of specialized agencies. This is true for two main reasons. First of all, because this work demands ongoing learning and a stable professional staff, which is not the case at the ministerial level. Second, because it requires institutions that have the legal and administrative capacity to take action, that are flexible and that are present throughout the country. Overall, it is important to avoid giving too much autonomy to agencies, since this can lead to a lack of accountability and problems of agency. It is also wise to avoid creating too many agencies and, rather than defining them by sector, to try to establish them according to the kind of interventions they specialize in (for example: financial services, productive development and innovation, export promotion, etc.), thereby avoiding a proliferation of multiple programs under various authorities.
- B. *Clearly identify the problems to be solved.* Instruments and/or programs should tangibly establish the problem they want to help to solve, identifying the market failure (or the expression of that failure) that gave rise to the problem and that constitutes the grounds for the intervention. Ideally, each instrument should have an objective in order to facilitate monitoring of its performance.
- C. *Ensure transparency.* The system should create mechanisms to ensure the greatest transparency in all processes, including decision making, and to keep stakeholders and communities properly informed on an ongoing basis. Private sector participation in formal processes for the design of support services, in resource allocation decisions and in the operation of the services themselves lends greater transparency to the system.
- D. *Properly define the criteria for project allocation and for access to the use of instruments.* The use of instruments and participation in programs should respond to

compliance with clear, previously defined requirements. Whether a public tender or open window policy is followed, resources must be allocated according to the merit of proposals, and care must be taken to ensure that access conditions are met.

- E. *Give preference to demand.* The use of instruments and the specific ways they are used should be up to business owners themselves and should not be imposed by the public sector.
- F. *Take a proactive approach.* Despite giving preference to demand, agencies must be proactive in the stimulation of users. This includes the possibility of acting selectively; that is prioritizing resources for certain sectors, but maintaining merit criteria in project allocation. Allocating projects by merit is a way of avoiding the problems derived from “picking the winners,” which is discussed above.
- G. *Decentralize.* Ideally, the implementation of programs and instruments should be as decentralized as possible in order to encourage a close relationship with clients and good geographic coverage.
- H. *Consider co-financing* The use of instruments should require counterpart contributions from users, since this favors both more relevant and more responsible use of the support provided.
- I. *Remember that support is temporary.* Support cannot be provided forever. It must have a time limit or else it will become a permanent subsidy of business activity.
- J. *Consider evaluation.* It must be possible to evaluate instruments and programs. It is advisable at the design stage to determine how their impact will be evaluated and to put in place information systems to enable subsequent evaluations (including baseline definitions). Impact evaluations should be a routine practice in the system, and instruments that receive a poor evaluation result should be restructured or discontinued. Clearly defined criteria should therefore exist beforehand. Evaluations should be conducted by independent bodies at the request of ministries.

iii) A further Note: The Merit of an Evolving Approach and the Key Role of Learning

Successfully implementing instruments and programs for productive development is not an easy task and it cannot be learned overnight. Experience suggests that learning is based on trial and error and that establishing a new instrument usually takes years. Productive development

instruments and programs consist essentially of incentives to entrepreneurs so that they will act or behave in a given way (innovating, strategically collaborating with each other or with the public sector, etc.). Calibrating incentives involves continuous adjustments, both in terms of how much incentive is provided and how it is delivered. Also, convincing business people to take the necessary steps to receive support is not simply a question of advertising. Personalized work and success stories are needed to stimulate others to follow the example. In most cases, there are no workers in the market who are trained in this kind of work, meaning that it is necessary to learn from experience. Neither is there usually a group of competent advisors or consultants who can act as mediators between the supply of instruments and their eventual demand, for example, helping business owners prepare proposals and projects.

All the above indicates the need to advance cautiously in the implementation of instruments and programs. Time must be provided for the market to develop and for staff at government agencies to go through a learning process that will necessarily occur in the course of the work itself. Consequently, making headway in public support of productive development is not simply a matter of available resources. It is necessary to consider the available capacity to properly allocate these resources, as well as the capacity to absorb demand.

The above are additional arguments in favor of the need to persevere in this field. It is very difficult to successfully implement programs if they are intermittent experiences. Neither entrepreneurs nor consultants will put effort into trying to use the instruments and the user profile will tend to undergo a process of adverse selection. Interruptions also break up teams of human resources that have gone through a learning process that cannot be entirely codified. However, even when initiatives remain in place over time, the agencies that work in this field often fail to include the learning process as a management objective. It is highly advisable for institutions to deal directly with the issue of knowledge management as a way to heighten and accelerate learning among its members and as a way to expedite the process of training new staff.

References

- Alesina, A., N. Roubini and G. Cohen. 1997. *Political Cycles and the Macroeconomy*. Cambridge, Massachusetts: MIT Press.
- Andersson, T. et al. 2004. The Cluster Policies Whitebook. Malmo, Sweden: Vinnova, The Competitiveness Institute and IKED. Available at: <http://www.iberpymeonline.org/Documentos/TheClusterPoliciesWhitebook.pdf>.
- Balassa, B. 1971. *The Structure of Protection in Developing Countries*. Baltimore, John Hopkins University Press
- Barr, A. 2000. "Social Capital and Technical Information Flows in the Ghanaian Manufacturing Sector." *Oxford Economic Papers*, 52: 539–99.
- Barro, R. and X. Sala i Martin. 1995. *Economic Growth*. New York: McGraw Hill.
- ECLAC (Economic Commission for Latin American and the Caribbean). 2008. *La transformación productiva 20 años después. Viejos problemas, nuevas oportunidades*. Santiago, Chile: ECLAC.
- Devlin, R. and G. Moguillansky. 2009. *Alianzas público-privadas para una nueva visión estratégica del desarrollo*. Project document No. 283 (November). Santiago, Chile: ECLAC.
- Dini, M. 2009, "Capital social y programas asociativos: reflexión sobre instrumentos y estrategias de CORFO". In Oscar Muñoz (Editor) *Desarrollo Productivo en Chile. La Experiencia de CORFO 1990 y 2009*, FLACSO, Catalonia.
- Greenwald, B. and J. Stiglitz. 1986. Externalities in Economies with Imperfect Information and Incomplete Markets. *Quarterly Journal of Economics* 101: 229–64.
- Hausman, R. and B. Klinger. 2007. The Structure of the Product Space and the Evolution of Comparative Advantage, CID Working Paper No. 146, April.
- Hausman, R. and D. Rodrik. 2003. "Economic Development as Self-discovery." *Journal of Development Economics* 72.
- Katz, J. 2000. "Cambios estructurales y productividad en la industria latinoamericana, 1970-1996". *CEPAL Review* No. 71. Santiago, Chile: ECLAC.

- Krueger, A. 1974. The Political Economy of the Rent-Seeking Society. *American Economic Review*, Vol. 64, No. 3 (June 1974), pp. 291–303.
- Lal, D. 1983. *The Poverty of Development Economics*. London, Institute of Economic Affairs.
- Lall, S. and C. Pietrobelli. 2005. “National Technology Systems in Sub-Saharan Africa”, *Int. J. Technology and Globalisation*, 1 (¾): 311–42.
- Lederman, D. and Klinger, B. 2004. “Discovery and Development: An Empirical Exploration of ‘New’ Products.” World Bank Policy Research Working Paper No. 3450. Washington, D.C.: World Bank.
- Little, I, Scitovsky, T. and Scott, M. 1970. *Industry and Trade in Some Developing Countries*. Oxford University Press.
- Maffioli, A. 2005. "The Formation of Network and Public Intervention: Theory and Evidence from the Chilean Experience." *ISLA Working Papers 23*. Milan: _ISLA, Centre for Research on Latin American Studies and Transition Economies, Università Bocconi.
- Meier, G. and D. Seers. (eds.). 1984. *Pioneers in Development*. Oxford, Great Britain: Oxford University Press.
- Nelson, R. 1981. “Research on Productivity Growth and Productivity Differences: Dead Ends and New Departures.” *Journal of Economic Literature* 19.
- OECD (Organization for Economic Cooperation and Development). 1999. *Boosting Innovation: The Cluster Approach*. Paris: OECD.
- Pietrobelli C. 2007, “Private Sector Development: Concepts and Practices”, in OECD, *Business for Development: Fostering the Private Sector*. Paris: OECD.
- Piore, M. and C. Sabel. 1984. *The Second Industrial Divide*. New York: Basic Books.
- Porter, M. 1991. *La ventaja competitiva de las naciones*. Barcelona: Plaza y Janes.
- Pyke, F., G. Becattini and W. Sengenberger (eds.). 1992. *Industrial Districts and Inter-firm Cooperation in Italy*. Geneva: International Institute for Labour Studies.
- Rodrik, D. 2004. “Industrial Policy for the Twenty-first Century.” *Faculty Research Working Paper Series*. RWP04-047.
- Romer, P. 1990. "Endogenous Technological Change". *Journal of Political Economy*, October.

Rosenstein-Rodan, P. 1943. "Problems of Industrialization of Eastern and South-eastern Europe", *Economic Journal*, June – September.

Sölvell, O. et al. 2003. *The Cluster Initiative Green Book*. Stockholm.

Stiglitz, J. 1994. *Whither Socialism?* Cambridge, Massachusetts: MIT Press.

Wade, R. 1990. *Governing the Market. Economic Theory and the Role of Government in East Asian Industrialization*. Princeton: Princeton University Press.