

# **Training the Workforce in Latin America: What Needs to be Done?**

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## ***Executive Summary***

The purpose of this paper is to discuss the status of training policies in Latin America, and to review some new approaches that are shaping the evolution of policies and institutions in the region. The ideas presented here rely heavily on discussions held over the last five years with government, private sector, and union officials in a number of countries in the region about organizational, institutional, and financial changes of training institutions. As such, this paper presents just a snapshot of a very active and lively discussion about training institutions and policies, where new lessons are being learned and new approaches are being developed practically every day.

There is a widespread perception in the region that globalization and economic integration are making training policies more important. A well-trained work force is key to provide domestic firms with a competitive edge, and workers require higher level of skills to adapt to accelerating technical and market changes. At the same time, however, the increase in precarious and casual forms of labor contracts reduces the incentives that both firms and workers face to invest in developing and acquiring new skills.

Much of the policy debate focuses on the reform of public training institutions, rather than on the wider set of private and public institutions and practices that determine how workers acquire and apply new skills. Training is a public policy problem, but it is a public policy that affects both public and private actors and where the interaction between the government and the social partners (private sector and unions) is key to any feasible solution. This paper contends that improving the performance of the training system requires more than reforming the public training institution, and that changes in tax, education, and labor market policies are crucial in this task.

In the first section we discuss why and how training policies are a legitimate and important object of public policies. Looking at new data about how much training is done and by whom, we point that private firms do train their workers, and that the intensity of this training effort is not too different than the one done by private firms in the US and Canada. The implication is that training policies will have to operate embedded in an institutional structure that involves the actions of workers and unions, firms and business organizations, and government. The institutional and organizational capabilities of each of these actors will contribute to give the training system a particular shape in each country.

We then move over to discuss the institutional structure of the training systems in Latin America at the light of their adequacy to coordinate the acquisition and use of skills by the work force. Training systems in the region have evolved differently from a common original model, mostly as a consequence of the different sets of circumstances and institutional capabilities that governments, the private sector, and unions had in each country. What we find today is that training systems are in a fluid organizational and institutional state. In most countries the training system performs poorly and shows little or no ability to innovate. In some countries, however, the training system that has evolved is well able to experiment and innovate in training provision.

In spite of this variety of organizational contexts, there is a general perception that the performance of these training systems is poor, and that its products are not relevant or even opportune in terms of the needed skills. In order to examine the validity of this perception in the next section we present the results of a number of impact evaluation studies of training programs in the region. The picture that emerges is quite negative. The training programs we examine have very little impact on wages and on employability for most groups of the population, with the exception of adult women. On the positive side, we find that private training providers have higher impact than public ones. We also find that when firms intervene in the selection of training providers, and that the gains in terms of workers' wage and employability are bigger when training providers receive payments partially contingent on results.

Solely tinkering with the institutional structure of the National Training Institute cannot solve this poor performance, though much needs to be done there. It is clear that neither provision nor regulation of training need to be public, or even that being public would make the system work better. However, a strong regulatory and effective enforcement of quality and relevance standards for training programs is needed for any policy to work. This regulator should be separated and independent of any other entity that operates training programs, to avoid conflicts of interest that could arise from bureaucratic encroachment. As in any market, regulation operates best when separated from provision.

Universalizing basic education and easing the transition between school and the labor market is crucial to give workers the opportunity to acquire the basic skills that are a pre-requisite of the more specialized skills that firms may want to offer. Tax policies could also fulfill an important role, both to subsidize the cost of training for individuals that choose to invest in learning new skills, and in subsidizing the investment that firms make in training their workers. At the least, investment in human capital should receive the same tax treatment received by capital investment. Labor market regulations also need to be attuned to this process, because productivity is a function of contractual relations and working conditions within the firm. Contractual innovations (including apprenticeship contracts) would allow workers and firms to share in the cost of training, and the inclusion of training clauses in collective bargaining agreements would give firms and unions the opportunity and the mechanisms to bargain on the level of investment aimed at skill development.

The adoption of the wide set of policies proposed here will be of course a gradual process, and needs to be tailored to the particular circumstances and capabilities each country faces. The findings presented here add up to a wider vision of the tools that policy makers have when trying to provide the population at large with the level and mix of skills needed by workers and firms to create the more productive jobs associated with a more competitive economy.

***Training as a public policy problem: why are public policies needed to provide an adequate supply of skills?***

Human capital development policies are an essential element of a competitiveness policy and neglecting them has imposed a heavy price on the region. The development of the more productive activities associated with a competitive economy require not only access to financing and technologies (both of which can be obtained on the international market), but also access to a skilled work force than can only be found locally. In economies that are integrating into the world market, firms need a skilled work force to take advantage of the opportunities of access to new technologies and fresh financing. If those skills are not made available, both firms and workers will have the incentives to engage in conducts that trap the economy in a “low-skill, bad-jobs” equilibrium (Snower, 1994).

Moreover, the increase in the demand for scarce skills over the last decade is clearly associated to a widening of wage differentials (Szekely, 1999) that is at the root of the lack of improvement of income distribution. Raising demand for skills and an inadequate supply combine to raise the wages of skilled workers and leave the uneducated poor in a bad job trap. The fact that after a decade those wage differentials have not shown a decreasing tendency indicates that our countries have been unable to increase the supply of skills.

From the point of view of public policies, the question is what policies are needed to increase the availability of skills and, more particularly, what institutional arrangements are needed in the training system and in labor policies to that end. Training, by which those skills are acquired, is different from other forms of human capital investment because both firms and workers have to simultaneously make investment decisions with different sets of preferences, time horizons, and information. The training system is the set of institutions and rules involved in the skill-development of new entrants and in the skill updating of workers already in the labor force. These institutions and rules can be both public regulations and institutions (as the traditional National Training Institute), or private arrangements among firms, workers, and unions or, more commonly, a mix of both. At a variance with the traditional discussion of training policies, which usually centers on the structure, functions and resources of the National Training Institute, we see training policies as the more complex set of institutional and financial arrangements needed to supply training to the work force.

Though a discussion of education policies is beyond the scope of this section, the inputs that a training system receives are the students exiting the educational system. Basic, general skills of literacy and numeracy, the staple product of the educational system, are required for any system of training to work properly. When the schooling system is not performing adequately, no training system is going to produce the number and quality of skills needed by world-class firms operating in the world economy. One of the observable consequences of this is the relationship between education and productivity growth

Policy makers have always seen increasing the skill level of the work force as a legitimate object of public policies and resources. Public training institutions, normally with a statutory authority to collect levies on firms, have been set up in most countries in the region. The creation of these institutions has been informed by a pessimistic view of the capability of free markets to produce those skills in adequate quantity and quality.

Economists have, to some extent, fed this pessimistic view. The classical Becker (1964) argument is that in competitive labor markets (where wages are equal to the marginal productivity of labor) firms would never invest in the development of transferable skills that would make their workers more “attractive” for other firms. If a firm invested in the creation of “general”, transferable skills, it would never be able to recoup the costs of training in the form of wages below marginal productivity. The now higher productivity worker would leave the firm for its neighbor that could pay his/her higher wage because it had not incurred in training costs. For firms, this represents a

lost opportunity to increase profits, because a more skilled and productive worker would increase its profits. Workers, on the other hand, also loose because they are less skilled and command lower wages. Firm-specific skills, on the other hand, would be supplied at an adequate level because they do not make workers more valuable for other firms. However, if general skills are in some way a pre-condition of the more specific skills in which firms are willing to invest, an inadequate supply of general skills would hinder the development of both types of skills. The natural conclusion of this argument is that training is a matter of public policy and that public resources are needed to subsidize the provision of training. Otherwise, the free market by itself would produce an inadequate level of skills.

The main issue against Becker's argument is that real labor markets are not perfectly competitive. In real labor markets there are matching and search costs that increase the value of the present worker-firm match and create rents that have to be bargained. For instance, workers will accept that their wages after training increase slower than their productivity if finding another job is costly and, therefore, will in fact share with firms the cost of training. Minimum wages and union activities, by raising the floor of the wage structure and reducing its spread, create rents that have to be bargained between workers and firms. For instance, if a firm provides training to a worker whose productivity is below the minimum wage it will not have to increase his/her wage. The impact of these labor market characteristics is that training increases wages, but less so that it increases productivity. In these conditions, firms will invest in training workers in both general and specific skills because firms can recoup the costs of training by paying wages below the marginal product of labor (Acemoglu, 1997, Acemoglu and Pischke 98).

The available empirical evidence in developed economies does suggest that firms train their workers and, furthermore, that all that training is not exclusively in tightly defined firm-specific skills. The studies on training in developed countries conclude: (a) that firms do train their workers, (b) that workers share in the costs of training in the form of wages below productivity, and (c) that there are multiple combinations of school and on-the-job training that result from different institutional arrangements of the training system. The firms most likely to provide training to their workers are larger, unionized, use flexible production systems, are experiencing rapid technological progress and sales growth, have longer probationary periods and high firing costs, and operate in areas and sectors of low unemployment. The workers most likely to receive training are those more educated, married, predominantly males, who have received relevant vocational training, and who have been recently hired (Bishop, 1997). Firm-provided training is associated with significant wage gains, larger than those associated with school provided training. When formal (meaning not just learning by doing in the first weeks on the job), training has an impact on productivity and on the worker's ability to innovate (Lynch, 1994).

This is not just a developed country feature. Although there is very little data or literature on firm provided training in developing economies, the available evidence does suggest that firms in Latin America do train their workers. Data from the 1999 World Business Environment Survey, a joint WB-IADB survey that assess the enabling environment for private enterprise in 20 Latin American countries, contains information on training practices of private firms. The survey is based in interviews of a random sample of 100 modern sector firms in the manufacturing (40%) and service sectors (60%).

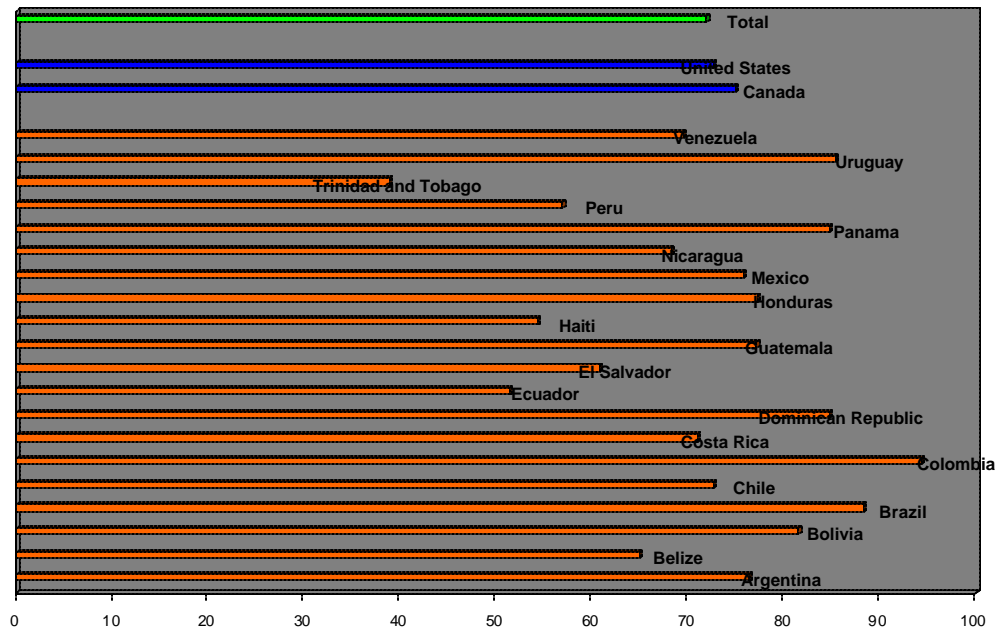
In the first place, the percentage of firms in the region than train their workers is not too different than the one in the US and Canada (Figure 1). Three out of four firms in the region do train their workers, and firms that have recently introduced some innovation (be it in products or processes) are almost 30% likelier to train than firms that have not innovated<sup>1</sup>. Firms in the services sector are 5% more likely to train, and small firms are fully 25% less likely to have some kind of training

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<sup>1</sup> These magnitudes are based in a probit equation on firms' characteristics, with likelihood of training workers as a dependent variable. Full estimation results are presented in a Statistical Appendix.

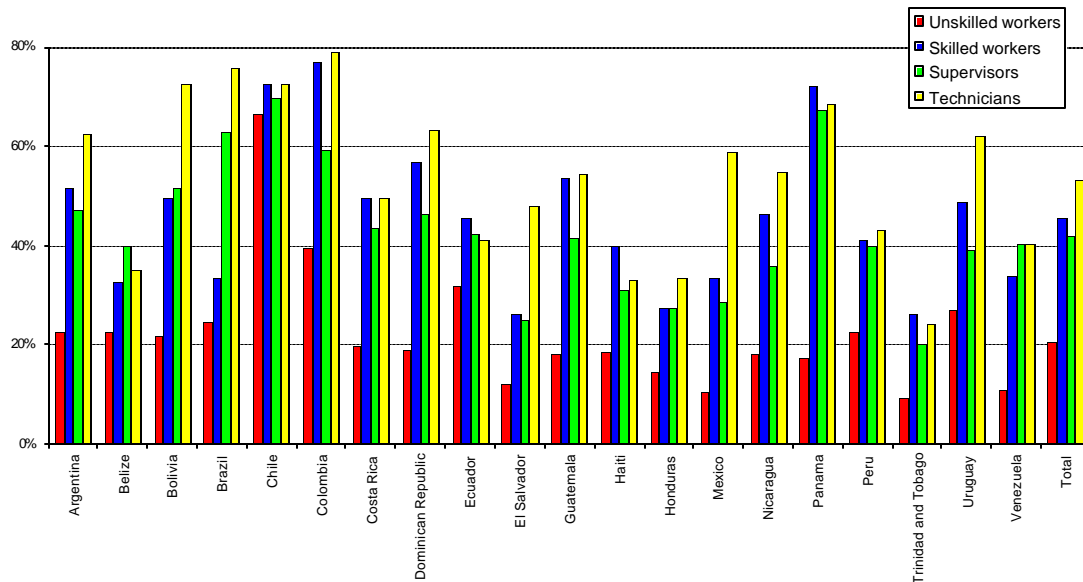
program. Foreign firms are slightly more likely to have training programs, while family owned firms are less likely to do so. Though older, more established firms are more likely to train, this effect is minor relative to the other effects studied in the survey. This pattern of incidence of training according to firm characteristics is very similar to the one described in the literature about developed countries that we examined above. When looking at workers, the pattern of training by skill level looks very similar to that revealed in the literature on developed countries: the more educated and skilled workers are the ones which firms train the most and for longer periods (Figure 2).

Figure 1: Percentage of firms that train their workers



The fact that firms train workers, of course, does not preclude public training policies. Firms may, and most likely do, provide a lower training level and a different mix of skills than it would be socially optimal. The literature of the 'new growth' theory shows that under-investment in skills today leads to lower future growth. Therefore the low level of today's investment has a cost for future generations that justifies public policies. The fact that most of training is directed to the more educated workers suggest that there are distributive reasons that would justify public intervention. In the absence of public intervention, training may act as an amplifier of the effects of the difficulties in labor market insertion that groups like the poorly educated and women face. There are also transitional reasons that justify public intervention. When operating in a low skill environment, firms will not create skilled vacancies because of the difficulties of filling them, even if filling that vacancy would increase their profits. Workers, in turn, will not have the incentives to obtain training given the lack of skilled vacancies, even if obtaining them would increase their productivity and wages. This "low skill bad jobs" equilibrium (Snower, 1994) can only be broken by public intervention to increase the supply of skills and push the economy towards a "high skill good jobs" equilibrium.

Figure 2: Who is being trained by firms in the region?  
 (% of firms that train workers by workers' skill level)  
 A quiénes capacitan las firmas?  
 (% de firmas que capacitan a los trabajadores, por nivel de habilidades de los trabajadores)



Source: WBES 1999

The evidence shown above suggests that the free market by itself would not provide an adequate level and mix of workforce skills. The natural implication is that public policies and resources are needed to increase the workforce level and quality of skills. Because firms and workers are actively providing and acquiring skills without public intervention, successful public policies need to be embedded in an institutional structure that coordinate the actions of workers and unions, firms and business organizations, and government. The challenge is to find what kind of public intervention through what institutional structure is the more efficient and cost-effective way to achieve the objective of providing the majority of the population with relevant, high-status, transferable skills (Finegold, 1999).

### ***The institutional setup of training policies in the region***

The institutional setting of the training system is a means to solve the collective action problem of providing the work force with relevant, transferable, and high-quality skills. The failure of the school and training systems in the region to deliver a skilled workforce has remained in spite of a number of reform initiatives aimed at improving the performance of the training system. This low skill setting is embedded in a network of supply side incentives that are associated with a particular set of product market and innovation strategies of firms. Efforts to enhance the availability of skills run up against the conflictive incentives and constraints that firms face from the financial system, the system of industrial relations, and the forms of organization of production (Wood, 1999; Culpepper, 1999). Because training is a long-term investment, firms dependent on short-term financial flows will be less prone to have the long-term horizon needed to develop training programs that provide their workers with high quality skills. In the absence of strong private sector organizations (like the German Chambers of Industry and Commerce) firms will not have a trusted institutional place to share information on skills needed and to coordinate its provision. Weak unions will not be able to make sure that trainees are being taught high quality

transferable skills, and not just being used as cheap labor. In the absence of this assurance, workers will not put the necessary effort in learning the skills taught in training programs. Firms operating in this environment will find it difficult to adopt the market and production strategies reliant on an intensive use of high skills that characterize 'world class' firms, will not use modern production technologies, and will minimize innovation.

As a means to solve the collective action problem of providing skills to the work force, training systems could be classified by what mechanisms they use. On one extreme of the spectrum, that we will call incentive-driven, pure incentive schemes operated through tax policies could be used that affect the costs and benefits that firms and workers face in acquiring and using skills. In such a system, no specialized public institution is needed beyond the one that oversees the quality and relevance of the training programs offered. Content, opportunity, and method of delivery are determined by the demand and supply for skills in each particular market, while public intervention operates through tax incentives and directed expenditure (though not provision) to support the most disadvantaged workers. At the other end of the spectrum, that we will denominate institution-driven, the collective action problem is solved through the establishment of a specialized public institution (the National Training Institute, NTI), with statutory authority to collect taxes, that determines based on the best information available the content, opportunity, and method of delivery of the training programs to be offered. In such a context it is logical that the social partners are members of the governing body of this institution in a tri-partite arrangement. Though assignment of particular cases to such taxonomy is fraught with conceptual dangers, it could be said that the US training system can be described as incentive-driven, while the German system would be more institution-driven.

Using those names, the most common institutional organization of the training system in Latin American is clearly institution-driven. Most of the countries in the region have a national-level public training institution, the NTI, with statutory authority to impose a levy on firms or with a firm claim on budget resources (see Table 1 in Appendix for a summary description of financial and institutional characteristics of these Institutes in the region). A host of mostly unregulated private training centers, some of them industry-related, some of them educational, and some purely for profit private ventures, complements this. The NTI is normally governed in a tripartite fashion, with a ruling body composed of public sector, private firms, and unions or workers representatives. In most cases, these Institutes operate under the authority and supervision of the Labor Ministry, and its rulings, once approved by the Labor Ministry, have legal power on firms. These autonomous or semi-autonomous NTIs both regulate the sector, and are the main producer of publicly financed vocational training. As a regulator, it often has the authority to approve firm's training programs whose costs can then be deducted from the training levy. As a producer of vocational training programs, it is supposed to plan its activities in coordination with the private sector that has a representation in its governing body.

The story of these institutions is part and parcel of the import substitution industrialization (ISI) strategy followed by most countries in the region until the early eighties. Information on skills demand is easy to obtain in a closed economy by an institution governed by a corporative representation of the few 'important' firms and unions in the 'strategic' sectors. Training programs designed by and for the few firms that were granted de facto monopoly power in developing 'strategic' sectors were largely successful in terms of relevance of skills taught and placement of trainees. In the context of the modernization drive of ISI, the training institution looked not too different than any other part of the educational system where public resources are used to solve externalities and coordination problems.

Brazil is perhaps the crowning achievement of the traditional model of National Training Institute. The SENAI-SENAC system is superbly managed and supplies high-quality training, has an important number of highly qualified trainers that operate in a geographically and sectorally decentralized fashion through a host of local, sector-oriented training schools. A powerful bureaucracy, mainly based in a strongly corporative private sector representation, trusted by both the public and the private sector governs the system. It finances its activities with earmarked



resources from the payroll tax, and has ample resources to act as a training producer, as a contractor of specialized center for special purpose programs, and as a sub-contractor in the provision of training for other public institutions (de Moura Castro, 2000).

The relative success of the SENAI-SENAC system is associated with its ability to solve the coordination problem that the private sector faces in the provision of training. By imposing a levy on all firms, firms de facto share in the cost of training programs. Unions, through their representation in the governing body, can oversee the quality and relevance of the contents of training and induce workers to invest the effort needed to acquire the skills being taught to them. Sector and geographical decentralization helps to make the system useful as a tool in local development programs. For this to happen, however, the system had to earn and preserve the trust of the private sector. On the one hand, the system must have the organization, staff, and resources needed to be able to flexibly and opportunely provide the needed skills. On the other, effective private governance of the system requires the existence of an adequate set of private sector institutional representative bodies (the Chambers of Industry and Commerce and unions) focused on developing an enabling environment for private firms' activities. Bureaucratization of the system and a narrowing of the Chamber's interests to the defense of protectionist policies have defeated the NTI model in most other countries in the region.

As early as the early nineties many voices were cautioning the public about the demise of the traditional training model. Two forces, one internal and the other external, were clearly disruptive to the performance of the training institutions in the region. On the one hand, given their character of public monopolies with politically designated governing bodies, they **lacked discipline in personnel management**, both in terms of employment volume, and in terms of wage and benefit levels. This resulted in bloated payrolls that ended up eating their operational budgets. As wage costs in the public sector are quasi-fixed, the successive waves of budget tightening eroded non-personnel costs and made even more difficult to attract higher cost qualified trainers.

On the other hand, a more dynamic technological environment **made it more difficult for these institutions to acquire and maintain the updated equipment and teaching materials required for training** the workers required for the more dynamic industries. The opening of the economy hit particularly hard the manufacturing sector (Tokman and Martinez, 1999), and speeded up the growth of a more modern and sophisticated services sector. This was the reverse image of the capabilities of the training system, mostly oriented to the development of skills needed in manufacturing and with little or no experience in the provision of services sector skills.

The problem is that in many cases powerful public bureaucracies were able to effectively oppose institutional and financing changes of the National Training Institution. Governments haunted by the duress of adjustment policies began to see training as a social policy instrument, instructing the training institutions to develop programs that could be used as a temporary alleviation of unemployment, thus breaking what little was left of their links to the private sector. Attempts to develop new and more diversified financing sources collided with bureaucratic inertia that blocked the needed institutional and organizational changes (Ducci, 1991). Combined with the scarcity of high quality trainers, this produced training institutions disconnected from the realities of industry and the needs of workers.

The national systems that survived this crisis had to undertake radical institutional surgery. All of them diversified their sources of revenue, and become one the channels that the government used to deliver temporary unemployment alleviation in the form of short-tern training programs, mostly for disadvantaged youth. Some of them, like INAFORP in Panama and INFOTEP in the DR, the Colombian SENA and the Venezuelan INCE, tried to break with a centralist past, and developed regional governing bodies and different regional centers to cater to the regional needs. This also implied a sectoral decentralization, with different specialties in different regions according to local economic activity. Not all the Institutes survived the surgery. Some of them, most notably the Argentinian CONET, simply disappeared from the budget or, like the Chilean SENCE, were reborn with a revamped institutional structure and functions, and even a different

name. With a few exceptions, the training institutions that emerged from this were a badly diminished version of the training powerhouses of the 60s and 70s, ill looked by reformers and with little or no prestige within the private sector.

One experiment in institutional redesign was quite successful and opened new avenues for reform in the training system. In 1994 the government of Chile, with IADB support, started a special purpose program for disadvantaged youth called *Chile Joven*. Though the program in itself was designed in the perspective of containment of the consequences of high unemployment and low labor market participation of disadvantaged youth, its design involved a far-reaching departure from the traditional organization model of the training system. In this program the government sets up a fund under the control of the Labor Ministry that finances the competitive contracting out of training services from public and private providers. The basic contract between the training fund and the provider establishes that the service provided will include classroom training, plus an apprenticeship in a firm where the trainees will develop 'practical' expertise using the tools and equipment of an actual productive firm.

This model of training program became an instant success in the

region. In Chile itself the contracting model became the trademark of operation of the training system (see Box). By 1999 almost every country in the region, often with IADB financing, was implementing a pilot version of it and some, like Argentina, were using the *Joven* model as the centerpiece for the re-design of its training system. The popularity of the model and its rapid dissemination throughout the region is explained by two of its characteristics. First, the *Joven* program shifted control of the resources for training towards the Labor Ministry and away from the National Training Institute. Thus the program allowed governments to effectively bypass the problems of personnel management that plagued the National Training Institute and, perhaps more importantly, let alternative training providers (ranging from public colleges to private providers operating in a non-regulated environment) to compete for funding. Second, as the 'practical' part of the training is done at productive firms using their equipment and machinery, tools and equipment used are up to date at no cost to the training system itself. A bonus consequence of this is that after-training placement rates increase, because firms reveal their demand for trainees by incurring in a positive cost to take the apprentices (among others, the wear and tear of equipment, the disruption of production, and the cost of inputs and of the trainers' time). The willingness of firms to incur in these costs serves as a signal that training is relevant to the skills demanded by them. However, the new system has relatively high costs and does not "accumulate" knowledge because of the absence of a central, regulatory institution that can set standards and produce the curricula and manuals of the basic courses geared towards basic and non-specific skills. (Castro, 1999).

**The Chilean model: a clear differentiation of regulation and provision**

The training system in Chile is regulated by the Servicio Nacional de Capacitación y Empleo (SENCE) under the authority of the Labor Ministry. One of the distinctive characteristics of SENCE is that it is a pure regulator that does not own or operate training facilities. The law 19.518 empowers the SENCE to administer an income tax rebate program (*franquicia tributaria*) for firms that directly provide or contract registered providers to develop training programs for their workers. The tax rebate is topped at 1% of the firm's payroll, with a floor that favors smaller firms. Firms present their training programs to the SENCE and, if approved according to quality and relevance criteria, receive the tax rebate that covers a fraction of the program's cost. This operational fashion does make full use of the variety of training providers available in the market, and let firms choose the content of their training programs according to their needs. Smaller firms that do not count with the managerial structure needed to design training programs can use intermediate organizations to act as brokers between firms and training providers, and these actions also benefit from the tax rebate.

Another important reform of the ley 19.518 is the regulation of an apprenticeship contract that uses the *franquicia tributaria* to subsidize training of workers before starting an employment relation and for a period of three months after separation of the worker. SENCE also operates the Fondo Nacional de Capacitación (that finances training actions for disadvantaged groups along the lines of the *Joven* model) and is active in the implementation of placement systems at the municipal level.

Another innovation that entered the training systems during the nineties was the certification of skill standards. Skill certification operates by 'credentialing' workers skills acquired by on-the-job training or simply experience, thus making those skills transferable. Certification thus solves the informational problem of potential employers not knowing the skill level of a prospective employee. Besides, workers are induced to invest more effort in the acquisition of skills because the more "portable" skills acquired carry value with prospective alternative employers. The setting up of the system requires the definition of standards and the licensing of qualifying examiners, activities both that need to be developed in coordination with the private sector. México is the country with the bigger skill certification program, but a good number of countries in the region are beginning to experiment with skill certification, often with IADB and WB financing.

International donors are also active in promoting innovations in the region's training systems. Particular mention is deserved by the actions of the German technical cooperation agency (GTZ) that is implementing pilot experiences trying to implant adapted versions of the German dual model of apprenticeship tailored in a number of countries in the region. Often these experiences collide with a regulatory structure that does not allow for apprenticeship contracts, or are hindered by the lack of strong private sector organizations that can enter into an effective partnership with the training institutions.

The institutionality of training systems in the region is in a fluid state. Policy makers and the public alike feel that the training system is not performing up to par with the needs arising from economic integration into the world market, and that this failure is costing dearly in terms of worsening income distribution, increased unemployment, and lost opportunities for growth of more productive firms. However, attempts to reform the training system are hindered by the poor availability of information about the impact of the training system on the workers it claims to train and, therefore, on the reforms needed to increase its efficiency and distributional outcomes.

#### **Mexico: linking the education and training systems**

The training system in Mexico has a peculiar structure. Size-wise is dominated by a public vocational education institution (CONALEP) that owns and operates training facilities and programs under the authority of the Secretary of Education. Though CONALEP' main source of resources is the public budget, it also sells training services to the private sector and to the Labor Ministry programs.

Since the mid-80s the Secretary of Labor finances two training programs, one for unemployed workers (PROBECAT), and other that subsidizes on-the-job training (CIMO) with emphasis on small firms. These programs are financed and regulated by the national government, but most of the everyday operation is done by the State's Labor Secretariats in coordination with the private sector and workers organizations, with support from the central level.

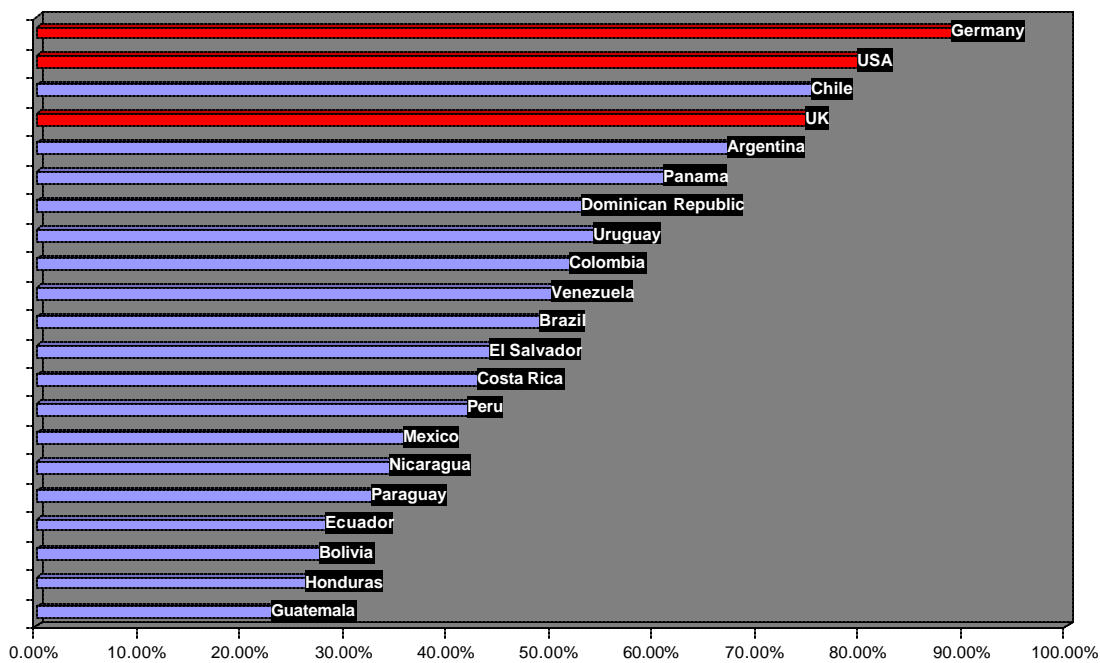
A skill certification program (CONOCER) is operated jointly by the Secretaries of Education and Labor with participation of private firms' representative organizations. The program finances the development of standards and the set up of the qualification exams. The actual teaching of skills is done by the existing training programs of both Secretaries, and mostly financed by them.

The new Mexican administration is benefiting from this diversity of interests and foci in the training system through the Commission of Social Development, a supra-secretarial unit reporting directly to the President. Under its authority, the Consejo Nacional de Educación para la Vida y el Trabajo (CONEVyT) is charged with the coordination of educational and training programs using, among other instruments, rules that would allow workers to migrate between the educational and the training systems, and whose skills would be certified and accredited. Under these rules under-educated workers would be able to use the knowledge acquired in training programs to obtain academic accreditation on a capacity basis, rather than on the usual time-served criteria. Academic advance could then be used to re-enter the training system at a higher level and complete a certified skill examination. By breaking the barriers between the education and training systems, the Plan de Educación para la vida y el trabajo promotes a more efficient use of the existing institutional structure to increase the supply of skills. However, the system is still dependent on the ability of the training programs to match its supply of skills to the market's demand.

### How do we do?: an evaluation of training policies in the region

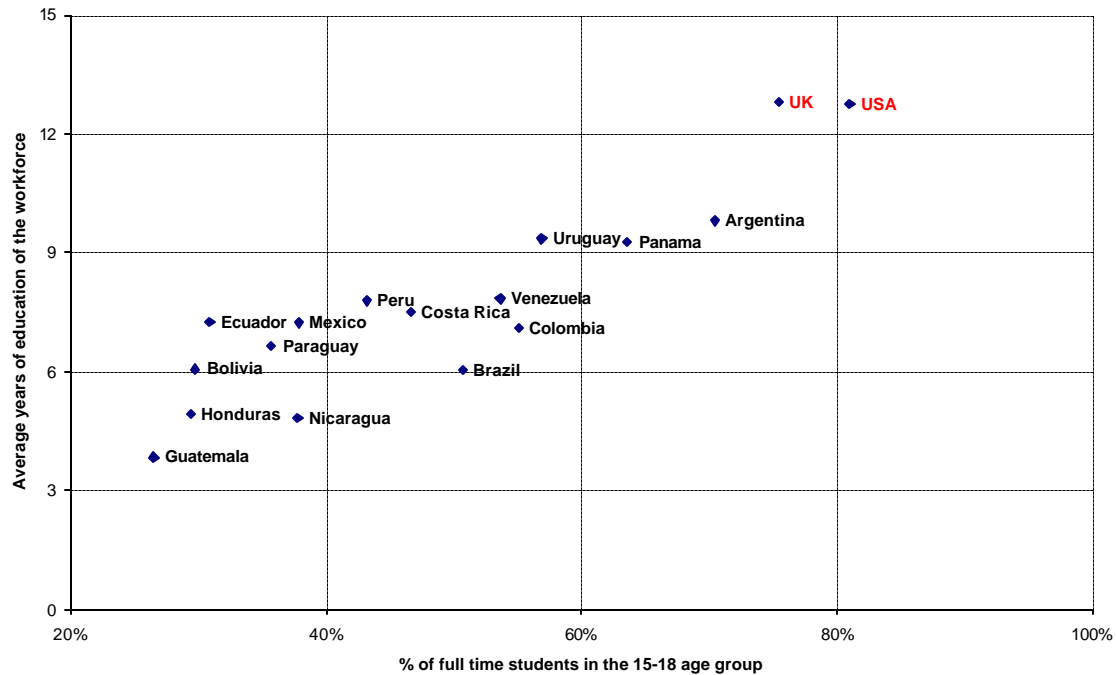
The performance of the training system cannot be appraised independently of the performance of the educational system. Basic, general skills of literacy and numeracy are required for any system of training to work properly, and these need to be created by the school system. When the schooling system is not performing adequately, no training system is going to produce the number and quality of skills needed by world-class firms operating in the world economy. The available evidence suggests that the educational systems in the region are not performing at an adequate level. Dropout rates are very high, partly as a consequence of the fact that the educational system does not offer incentives for students to stay in the system if they are not going to higher education. A very low fraction of the 15-18 years old group stays in full time schooling after compulsory education (see Figure 3). As a consequence, new entrants to the work force are a group with low levels of the literacy and numeracy needed for them to be able to engage in training in complex and sophisticated skills. Thus, the training system ends up having to deliver very general and basic skills, a process for which it is quite ill suited and that duplicates at a higher cost what should have been delivered in the first place by the schooling system.

Figure 3: Youth stay-up rates in the region and in developed countries  
(% of population between 15 and 18 years old in full time schooling)



Low levels of formal schooling at the entrance of the labor market, of course, translate themselves in time in a low level of educational attainment of the work force (see Figure 4). More importantly, because firms know that their work force does not count with basic skills, they tend not to create skilled vacancies. Students, in turn, do not have the incentives to invest in the acquisition of skills because firms are not creating skilled vacancies, thus closing a dynamic vicious circle of low skill, bad jobs. For the training system, this implies that any increase in the supply of more complex and sophisticated skills will be hindered by an inadequate supply of basic, general abilities over which those are based. One very important practical consequence of this for the training system is that it will need to address the need for remedial education as part of their training efforts.

Figure 4: Youth stay-up rates and educational attainment of the work force



An extensive body of literature on active labor market programs in developed countries suggests that low skill and ability workers do not benefit from their participation in training programs and that the resources invested in those programs are not effective and cost-efficient investments. (Heckman et al., 1999). There is very little evidence on the impact of training programs in the region, until very recently most of it as part of the evaluation of programs financed by international financial organizations (Jimenez and Kugler, 1987, Paes de Barros, 2001, Revenga and Riboud, 1994). More recently, a series of studies commissioned by the IADB used different adaptations of the methodologies developed by Heckman et al. (1999) to evaluate the impact of training programs in the region.

Medina and Nuñez (2000) study the impact of training programs in Colombia. The Colombia training system encompasses a number of public and private institutions that offer training programs and the *Servicio Nacional de Aprendizaje* (SENA), an important public institution that regulates the system and owns and operates training facilities. Private training institutions are concentrated in the bigger cities, offer more specialized courses, and are less likely than SENA and the other public institutions to offer courses on basic skills at no cost. They find that socio-economic background and personal characteristics influence whether or not individuals will engage in training programs. In particular, more education increases the likelihood that individuals in all demographic groups receive training in any of those institutions. When choosing among institutions, workers who had a stable job for the last year are less likely to take a training course in a public institution, but more likely to do so in a private one. This suggests that when firms have intervention in the training decision they tend to favor private institutions.

They use a matching methodology to control for the difference in personal characteristics between trainees and the general population. They find that for youth training has no statistically significant impact on income, with the only exception of a long term impact on the future wages of young females who took training in private institutions. For adults, when training is taken at SENA or at other public institution, training has no short- or long-term impact on income. Segmenting by gender, adult males trained at SENA show a negative impact on the short term, but no impact on the long run. For adult females trained at SENA the impact is positive both in the

short and in the long term. Adults who take training at private institutions enjoy a significant long-term increase in income, though there is no impact in the short run.

Eliás et al (2001) analyze the impact of one of the rounds of the *Joven* program in Argentina on wages and likelihood of employment. The program offered a scholarship for participation in a training program (between six weeks and three months of classroom training and two months of practical training in a firm) to particularly disadvantaged segments of the labor force. The target population of the program is unemployed individuals of both sexes between 16 and 30 years old, with less than complete secondary education and with scarce labor market experience. One third of the beneficiaries were female and two thirds were younger than 24.

Using a variety of matching estimators they conclude that the main impact of the program is in wages, with only weak non-significant effects on the likelihood of finding a job. The wage effects are around a 10% increase on previous wage, and the effect is stronger for females, implying that female trainees tend to benefit more from the training received through the program. In terms of cost-benefit analysis, the authors conclude that, depending on different assumptions about costs and assuming that the effects of the program last for five years, internal rates of return vary between 2.4 and 7%.

Aedo and Nuñez (2001) use different control groups and more stringent estimation techniques to evaluate the impact on wages and likelihood of employment of the same program. They report that females over 25 are the only group that benefit from wage increases and likelihood of employment.

Bravo and Contreras (2001) use a change in the rules between two different waves of the Chilean *Joven* program to infer how changes in the incentive structure that training providers face can alter the placement of trainees. Until 1994, training providers received payment for delivering classroom training and placing the trainee in an internship in an enterprise, with no additional compensation if instead of an internship the trainee got a job contract. In 1995 a new rule was introduced in the program by which the training provider would receive monetary compensation from the government if the trainee obtained a job contract, instead of just an internship in a firm, at the end of the training period. This allows them to compare placement rates before and after the change.

They conclude that changing the structure of financial incentives that training providers faced reduced the program's desertion rates and that it had a positive impact on placement rates. They calculate that placement rates increased by 13% after controlling for possible differences in the composition of the beneficiaries' group between the two waves using matching methodologies.

Calderón and Trejos (2001) use longitudinal data to evaluate the impact of the PROBECAT program in Mexico on the lengths of employment and unemployment spells of beneficiaries after taking the program. The PROBECAT program finances fellowships to train unemployed workers for a period of three months in different training institutions in Mexico. They conclude that taking the program reduces the time looking for the first job after the training program for female trainees, but not for males (with the exception of one institution). The program does help trainees in keeping their jobs for longer periods and reduces the period of unemployment when the beneficiaries leave that job. This result varies a lot among teaching institutions and modalities of the program, with more benefits accruing to trainees that received a mix of classroom training and practice in a firm. These results are also sensitive to the local labor market conditions, with regions with higher unemployment showing a greater impact on average.

These evaluations are quite consistent with the results available from developed countries program evaluations (Heckman et al., 1999, Martin, 2000). The results presented suggest that the likelihood of being trained, even in the presence of free-of-charge public providers, increases with the level of education. In the Colombian case, the only one where there is a distinction between public and private providers, the impact of training on wages is bigger for those trainees that went

to private institutions, possibly because firms have an intervention in the selection of the training program and provider.

When analyzing the new modalities of training programs represented by *Joven* and PROBECAT, the studies show that the impact on placement rates when positive is small, and that it varies a lot among demographic groups, with bigger impact on young males.

In terms of impact on wages, all studies that find positive impact show that wages increase by around 10% above pre-training wages. There is evidence that some training programs have a negative impact on trainees' wages, at least in the case of adult males trained at the public institution in Colombia. These results are fully consistent with the literature on evaluation studies in developed countries. Last, but by no means least, the studies show that young and adult females enjoy the biggest positive impact on after-training wages.

Finally, though evidence here is not as conclusive as above, all the studies that analyze the influence of different providers show that "better" quality providers produce better results in terms of both placement and income increases. Moreover, one study shows that paying providers in a form that is contingent on trainees' placement results has an impact on program performance through the creation of incentives for training providers to operate in cost effective ways. This suggests that 'contracting out' the provision of training needs to be accompanied by analysis of internal efficiency of providers in order to improve the overall performance of the system

### ***What do we need to do? Conclusion and policy recommendations***

The competitive integration to the world economy requires a sustained rhythm of increase of labor productivity, which can only be the result of improved educational attainment for the population at large and of a higher level of skill supply and demand. This reminds us that training policies cannot be seen in isolation: its effectiveness and success depends on a number of policies that structure the incentives firms and workers have to demand and supply skills. In this particular sense, the recommendations that arise from this paper differ in scope, though not in orientation, with the conclusions of the IADB's Strategy on vocational and technical training. While the Strategy focus its discussion on achieving the reform of the National Training Institution, this study attempts to show that interventions are needed in a far wider scope of areas.

First and foremost is the **educational policy**. Universalizing basic education up to 9<sup>th</sup> Level is a necessary condition, but far from sufficient to support a process of skill development. The school system needs to show flexibility and attractiveness enough to give students the incentive to stay in the schooling system beyond basic education. This is not necessarily an argument in favor of vocational education as a specialized, closed-end feature of the educational system. Rather, easing the transition between school and the labor market and vice-versa is crucial to give under-educated workers the opportunity to acquire the basic skills that are a pre-requisite of the more specialized skills that firms may want to offer. In this sense, the Mexican initiative of *Educación para la vida y el trabajo* shows conceptual promise as it opens new channels of communication between school, training, and the labor market.

Adult education needs to be expanded given the low education attainment of the population at large, and of active workers in particular. Alternative models of delivery more suitable to adults that most likely are either working or looking for a job will be a necessity, probably implying a more intensive use of existing educational facilities and the design of accelerated, examination-based accreditation programs. Subsidizing the financial and foregone earnings costs of acquiring more education is a legitimate means to increase the demand for adult education. In particular, these efforts should be expanded in high unemployment periods, when the cost of foregone earnings falls substantially. If subsidization includes the provision of income support contingent on results to adults re-entering the educational system, these programs would also have the non-trivial benefit of keeping workers out of the unemployment lines. Notwithstanding, the temptation

of thinking adult education as an income support program should be fought. If the quality of the education delivered is deficient, program participants will be stigmatized and the program will lose any effect it could have on future earnings of trainees.

**Tax policies** could also fulfill an important role both to subsidize the cost of training for individuals that choose to invest in learning new skills, and in subsidizing the investment that firms make in training their workers. At the least, investment in human capital should receive the same tax treatment received by capital investment. This can be a very flexible policy, Chile shows an interesting example of how a tax rebate (the *franquicia tributaria*) can be used to subsidize a wide variety of training programs, including for disadvantaged groups of the population. The advantage of this kind of intervention is that it produces little or no interference in the training decisions of firms and workers. However, in the absence of strong regulation based on objective criteria about the quality and relevance of the training programs this policy may just be a waste of resources if firms and workers develop opportunistic conducts.

**Labor market regulations** also need to be attuned to this process, because productivity is a function of contractual relations and working conditions within the firm. Contractual innovations (including apprenticeship contracts) that allow workers and firms to share in the cost of training through a reduction in wages, and that eliminate the legal presumption of existence of an indefinite labor contract for trainees, will serve to increase the supply and demand for skills. However, it should be kept in mind that opportunistic behavior could result in the use of trainees as cheap labor force in the absence of a strong and effective enforcement of quality and relevance standards for the training programs offered. Besides, if these innovations reduce separation costs below normal levels, firms and workers will have fewer incentives to spend in the acquisition of skills given the increase in the likelihood of termination.

Workers and firms would benefit from wider availability of information about jobs and educational opportunities. Labor market intermediation services, which support unemployed workers' search efforts, can fill a useful role easing the flows of information and helping workers find training opportunities while searching for a job. The post-1995 experience of operation of income-support programs show that their effectiveness could be enhanced immensely by offering a menu of options (including training and educational opportunities), as opposed to just cash transfers (Márquez, 2000).

Training programs should also be included in collective bargaining, thus giving firms and unions the opportunity and the mechanisms to bargain on the level of investment aimed at skill development. Unions and employers operate training facilities in a number of countries in the region, some of them of quite high quality. Regulation and direct government intervention to foster the creation and orderly use of local or regional councils of workers and firms aimed at development and operation of training programs would ease the coordination problem, and probably increase the quality and relevance of the training offered. As these programs operate at the local or regional level where unions and employer organizations have more control over their performance, the likelihood of them becoming bureaucratic monsters would be quite reduced.

Mechanisms to protect the income of unemployed workers (including severance payments and unemployment insurance) should include subsidies for training, preferably in the form of voucher-like instruments that workers could negotiate as part of their job search strategy. The post-1995 experience in the region shows that short-term training programs for unemployed workers are not star performers in increasing future earnings of beneficiaries (see previous section for evaluation results), though they seem to enhance employability at least for adult women. No experimental evidence is available on the impact of programs that send the unemployed back to school to acquire basic skills, but experimentation in this area should be encouraged and could be used to support the expansion of adult education.

There is no clearly "best" model of **institutional layout of the training system**, though there are a numbers of do's and don'ts that should orient policies in this area. The poor record of the



traditional National Training Institution in most countries in the region shows that the corporatist model of organization isolated the system from workers and firms, and that these Institutes need to be redesigned. A strong public regulator of the training system needs to be in place in order to set and enforce quality and relevance standards for training programs. Because of the central nature of this institution in labor market policies, it is natural to think that it should depend from the Labor Ministry, rather than from the educational authority. The regulator should be separated and independent of any other public entity that operates training programs, to avoid conflicts of interest that could arise from bureaucratic encroachment. As in any market, regulation operates best when separated from provision. This does not imply the endorsement of an enlightened but isolated public bureaucracy: the regulator needs to earn the trust of the private sector and, for that, needs to interact with the institutional representations of workers and firms (and not just with training providers), and be governed by their demands. The corporatist model works only if those institutional representations are strong and focused on competitiveness (as seems to be the case in Brazil), rather than on the defense of the status quo. When unions and chambers of industry and commerce are weak, the corporatist solution degenerates in a bureaucratic quagmire that consumes inordinate resources with little or no social return. More flexible forms of coordination with the private sector and with unions should be stimulated, including the creation of local/regional and sector-specialized councils that can inform and direct public training policies in a setting and scale more agreeable to the institutional capabilities of unions and the private sector. Skill certification is an important tool in this process, in the sense that it solves an informational problem by making the quality and quantity of workers' skills observable by potential employers. Certification, however, requires a strong institutional participation of firms, workers, and unions in the design of content standards and the mechanisms for accreditation.

The existing training systems have been charged with **remedial training** and education, and it is very likely that they will continue to be involved in this area given the deficits in basic skills of the labor force. The problem is that these programs tend to show little impact on beneficiaries and therefore very low social returns. These programs should not be financed without stringent and continuous evaluation that allows for flexible redesign of program's content, method of delivery, and clientele. On the positive side, these programs have served to open up the spectrum of training providers and have been strong forces for change in the training system. In particular, these programs need to be integrated with placement and intermediation mechanisms keeping in mind that the ultimate objective of remedial training is to place trainees in productive jobs where they can continue to develop their skills. This implies that actions to facilitate job search, including subsidies and counseling, should be an integral part of remedial training programs. The Labor Ministry should profit from this opportunity to enhance the structure and performance of the placement and labor market intermediation services it provides.

The last decade has been a time for active innovation in the training system. Governments in the region have been active implementing new programs and setting up new institutional structures in the training system. This is a welcome process whose momentum should be kept. However, most of these new programs have been set up as transitional contention devices of the adverse consequences of unemployment and low incomes. Authorities should not forget that the ultimate mission of the training system is to provide the population at large with the level and mix of skills needed for workers and firms to create the more productive jobs associated with a more competitive economy. This implies that every action in the training system, from basic remedial training to the more sophisticated skill certification process, should be evaluated in terms of its effectiveness and cost-efficiency in the attainment of that objective, rather than on its effectiveness in containing the adverse social consequences of unemployment.

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## Statistical appendix

Probit estimates

Number of obs = 1813

LR chi2(8) = 264.48

Prob > chi2 = 0.0000

Pseudo R2 = 0.1215

Log likelihood = -956.06719

| train     | dF/dx     | Std. Err.  | z     | P> z  | x-bar   | [        | 95% C.I. | ] |
|-----------|-----------|------------|-------|-------|---------|----------|----------|---|
| small*    | -.2464223 | .0354459   | -7.08 | 0.000 | .340871 | -.315895 | -.17695  |   |
| medium*   | -.08724   | .0320041   | -2.75 | 0.006 | .403199 | -.149967 | -.024513 |   |
| manufact* | -.038794  | .0233029   | -1.68 | 0.093 | .369553 | -.084467 | .006879  |   |
| age       | .0013705  | .0005359   | 2.55  | 0.011 | 25.0673 | .00032   | .002421  |   |
| foreign*  | .0925989  | .0320597   | 2.62  | 0.009 | .128516 | .029763  | .155435  |   |
| familyc*  | -.1389154 | .0230592   | -6.03 | 0.000 | .451186 | -.18411  | -.09372  |   |
| innod*    | .2631843  | .0404677   | 6.88  | 0.000 | .902923 | .183869  | .3425    |   |
| lac*      | -.0111127 | .0353974   | -0.31 | 0.756 | .897408 | -.08049  | .058265  |   |
| obs. P    | .7120794  |            |       |       |         |          |          |   |
| pred. P   | .7375303  | (at x-bar) |       |       |         |          |          |   |

(\*) dF/dx is for discrete change of dummy variable from 0 to 1

z and P>|z| are the test of the underlying coefficient being

**Table 1: some financial and institutional characteristics of training institutions in Latin America**

| Country           | Name of National Training Institute | Financing:<br>Does the Institute receive resources from ... |  |   |  | Institutional structure  |  |                                   |  |   |
|-------------------|-------------------------------------|---|--|---|--|--|--|-----------------------------------|--|---|
|                   |                                     | ... an earmarked payroll tax? If affirmative, rate %        | ... the budget ?                                       | ... private sector other than payroll tax ? | can firms deduct the cost of their own training programs from tax?                   | Supervised by ...  | Structure of governing body  | Decentralized and/or diversified? | Owns and operates training facilities? | Firms must submit training programs for their approval? |
| <b>Barbados</b>   | NATIONAL TRAINING BOARD             | 0.5 - 1   | Yes  | Yes   | Costs incurred by employers are subsidized by the Employment and Training Fund.      | Min. of Labour   | Tripartite, three employers, Three academic, and two union representatives | n.a.                              | No                                     | Yes   |
| <b>Bolivia</b>    | INFOCAL                             | n.a.  |  | Yes   | n.a.   | Min. de Desarrollo Humano and Confederación de Empresarios Privados de Bolivia | National Office / 9 Departments' Directories                               | Yes                               | Yes                                    | n.a.  |
| <b>Brazil</b>     | SENAI / SENAC                       | 2.5   | private entities financed by parafiscal contributions. |   | With agreement from SENAI, but only for courses authorized and provided through them | Min. do Trabalho   |  | Yes                               | Yes                                    | Yes   |
| <b>Colombia</b>   | SENA                                | 0.5-2.0   |  | Yes   | Up to 50% of cost of training authorized by SENA can be deducted from training tax.  | Min. de Trabajo y Seguridad Social   | Tripartite   | Yes                               | Yes                                    | Yes   |
| <b>Chile</b>      | SENCE                               | n.a.  |  |   | Yes (up to 1% payroll and sliding scale for smaller firms)                           | Min. de Trabajo y Seguridad Social   | Tripartite   | n.a.                              | n.a.                                   | Yes   |
| <b>Costa Rica</b> | INA /SINETEC                        | 2   | Yes  | Yes   | No   | Min. de Trabajo y Seguridad Social / Min. de Educación Pública                 | Tripartite / Government, academic, and employers Council                   |                                   | Yes                                    | Yes   |
| <b>Dominican</b>  | INFOTEP                             | 1   | Yes  | Yes   | Employers can  | Sec. de Estado de  | Tripartite   | Yes                               | Yes                                    | Yes   |

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|                   |                                     | ... an earmarked payroll tax? If affirmative, rate %        | ... the budget ?   | ... private sector other than payroll tax ? | can firms deduct the cost of their own training programs from tax?                 | Supervised by ...                  | Structure of governing body     | Decentralized and/or diversified? | Owns and operates training facilities? | Firms must submit training programs for their approval? |
| Rep.              |                                     |   |  |   | deduct the cost from their contribution for training authorized by INFOTEP         | Trabajo                            |                                 |                                   |  |   |
| Ecuador           | SECAP                               | 0.5   | Yes  |   |  | Min.de Trabajo y Recursos Humanos  | Tripartite                      | Yes                               | Yes                                    |   |
| Guatemala         | INTECAP                             | 1   | Yes  | Yes   | Yes  | Min. de Trabajo y Prevision Social | Tripartite                      | Yes                               | Yes                                    | Yes   |
| Jamaica           | THE HEART TRUST                     | 3   | No   | Yes   | For emoluments to a trainee with a cap of \$ 50 per week per trainee               | Min. of Labour                     | Board of Directors (tripartite) | n.a.                              | No                                     | n.a.  |
| Mexico            | CONALEP                             | n.a.  | Yes  | Yes   | n.a.   | Secretaría de Educación Pública    | n.a.                            | Yes                               | Yes                                    | n.a.  |
| Nicaragua         | INATEC                              | 2   | Yes  | Yes   |  |                                    | Tripartite                      |                                   |  |   |
| Panama            | INAFORP                             | n.a   | Yes, special contributions to the Education insurance fund | Yes   | Twice the trainee income earned during the fiscal period of contributing employer. | Min. de Trabajo/Desarrollo Laboral | Tripartite                      | Yes                               | Yes                                    | n.a.  |
| Paraguay          | SNPP                                | 1   | Yes  | Yes   |  | Ministerio de Justicia y Trabajo   | Tripartite                      | Yes                               | Yes                                    | Yes   |
| Peru              | SENATI                              | 0.75  |  |   | n.a.   |                                    | Tripartite                      | Yes                               | Yes                                    | n.a.  |
| Trinidad & Tobago | CIPRIANI LABOUR COLLEGE             |   | Yes  |   | n.a.   | Min. of Labour                     | Bipartite                       |                                   | Yes                                    |   |
| Uruguay           | DINAE / JUNAE                       |   | Yes  |   |  | Min. de Trabajo y Seguridad Social | Tripartite                      | Yes                               | No                                     | Yes   |
| Venezuela         | INCE                                | 2   | Yes.   | Yes   | Only when approved by INCE   | Min. de Educación                  | Tripartite                      | Yes                               | Yes                                    | Yes   |

