Innovation from Emerging Markets: The Case of Latin America
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This working paper is based on InnovaLatino: Fostering Innovation in Latin America (2011), the result of an INSEAD/OECD research project funded by Fundación Telefónica about innovation in Latin America. Please see Box 1 for more on the InnovaLatino project. An earlier version was published in Casanova, L. Dayton-Johnson, J. Fonstad, N. Pietikainen, A. 2011. Innovation in Latin America: Recent Insights. In Dutta, S. Global Innovation Index. INSEAD.

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1. Introduction

Today, ‘innovation’ is a priority all over the world, particularly in emerging markets. The President of India declared this decade the ‘Innovation Decade’. In emerging markets the word means much more than catching up by imitating innovative policies and firms from more developed economies. Some called it *Reverse Innovation*, meaning that it originates in places other than the ones traditionally linked to research and technology. Others use the word ‘frugal innovation’ with the idea that you need to innovate in a context of scarcity of resources and has to have an impact in the society. The goal is to reduce price and functionality and increase quality for a large audience.

If we look at Latin America, the region is well known for its music, Nobel laureate writers, excellent TV soapoperas (‘telenovelas’). In several revealing cases, Latin American businesses are redefining global business by developing new business models. There are many examples of promising policy reforms, such as Vive Digital in Colombia among governments in the region. Latin America can offer lessons about innovating with scarce resources in volatile and unpredictable environments — indeed, innovators in countries leading in research and development (R&D) increasingly face similarly challenging conditions.

However, business leaders and policy makers must do more to encourage productive risk-taking, multiply the success stories, and ensure that micro-level innovation is scaled up into more productive economies at the macro level. Innovation matters for economic growth and social development: it plays a critical role not only in increasing private profits, but also in advancing the frontier of well-being. Recent reforms to innovation policy frameworks in Latin America are promising. These need to be continued and strengthened in order to translate the wealth of innovation in the region into better economic growth and social inclusion.

In this paper, we highlight insights from InnovaLatino, a collaboration between INSEAD and the Development Centre of the Organisation for Economic Co-operation and Development (OECD),
funded by the Telefónica Foundation. We conclude this paper with recommendations for strengthening the contribution of innovation to social and economic development in Latin America.

**Box 1: The InnovaLatino project**

InnovaLatino was a joint project between the INSEAD’s eLab and the OECD Development Centre, supported by the Fundación Telefónica. The goal of the project was to research innovation dynamics in the public and business sectors in Latin America with the aim both of drawing attention to and learning from innovation initiatives underway in the region, and of advocating greater policy attention to this matter in national development strategies.

The findings of the InnovaLatino report are based on original research combining economic and statistical analysis with more than 50 short case studies of innovators throughout the region. In particular, the report includes results of a survey of 1,500 manufacturing firms in eight of the region’s countries. This InnovaLatino survey provides recent data on firms’ innovation strategies and trends in innovation investment in the context of the global economic crisis.

The project team worked in collaboration with key stakeholders, policy makers, and experts, in particular from the Ibero-American Network of Science and Technology (RICYT), the UN Economic Commission for Latin America and the Caribbean (ECLAC), the Inter-American Development Bank (IDB), and the European Commission (the report is available at www.innovalatino.org).
2. The case for innovation in Latin America

Innovation defined as the adoption of new products, production processes, marketing methods, and business models, has risen to the top of the agenda for decision makers in government and business alike. Productivity has lagged in Latin America relative to OECD countries and other emerging economies, and the region’s policy makers recognize that investing in and promoting innovation can help to close that gap.\(^1\) Innovative practices will also be necessary to make growth cleaner and more environmentally sustainable in the future. There will be a rising need for institutions and policies that support and orient the transition to new growth models.

As the Western world struggles to recover from the global financial crisis, new players are emerging in the innovation arena, challenging decades of primacy of a small number of high-income countries. For example, China has dramatically increased both expenditure and employment in R&D. Brazil, India, the Russian Federation, and South Africa are likewise increasing their presence in global science, technology, and innovation. Latin America is both a protagonist in the expansion of global innovation and is challenged by the emergence of new actors such as China and India.

Enhanced budget transparency, the adoption of fiscal rules, control of inflation, strong external and fiscal balances and the wise use of countercyclical macroeconomic policies allowed Latin America to resist the global financial crisis and, in the middle of it, grow 4.4% in 2011 better than many other regions of the world. Increasing domestic demand, which came about with the reduction of poverty levels, fuelled economic growth. But to achieve sustainable growth and development at a rate sufficient to address social needs in the region, structural changes in economic development strategies will be needed. The window of opportunity offered by the rapid recovery from the crisis and fiscal space needs to be seized for more sustainable investment in innovation.

At the same time, decision makers in Latin America face the same challenges as their counterparts in many other economies — consolidating existing innovation processes, supporting investment in
innovative sectors (such as green technologies), and creating the conditions to bring more players into the innovation game. Although the challenges for Latin America are specific to its context and history and are shaped by the heterogeneity that characterises production structures across and within its countries, the experiences of other countries can be relevant to the region. By participating in the global debate on how to foster innovation for growth, successes and failures in policy and business practices can be identified and imitated. The objective of the InnovaLatino project (Box 1) was to contribute to and inform these debates.

3. Who are Latin America’s innovators?

At InnovaLatino we examined four types of innovation, united by the notion of novelty: a new product, a new process, a new way of selling something, and a new way of organizing the workplace. Box 2 provides a Latin American example of each type of innovation. Far from being limited to products generated by laboratory research, the range of activities embraced by these four types of innovation is remarkably broad.

**Box 2: Latin American examples of different types of innovations**

These examples of innovation in Latin America illustrate the various categories of the concept, and demonstrate the range of innovations taking place in the region.

The **Variable Specific Impulse Magnetoplasma Rocket** (VASIMR), developed by Costa Rican astronaut and physicist Franklin Chang Díaz, is a textbook example of **product innovation** that is new to the world. The VASIMR is an electro-magnetic thruster for spacecraft propulsion that may one day be used for space transport. Chang Díaz has founded a company (Ad Astra), based in the United States and Costa Rica, to develop the VASIMR and other advances in rocket propulsion technology.
The Brazilian airplane maker Embraer has built its success on an innovative manufacturing process and organisation in which it shares risks with and outsources production to partners in developed economies. Although Brazil had its own supply of excellent aeronautical engineers, the company initially did not have the financial resources to invest in the production of airplanes. Hence out of necessity it had to innovate and share risks and returns with partners from developed economies who designed parts of the plane for Embraer in return for a share of the returns generated from the sales. Today, this model of risk sharing has become a globally accepted ‘standard’ for the aeronautical industry at large.

Havaianas flip-flops, produced by Brazilian footwear and textile company Alpargatas, have become a globally successful brand, thanks to the firm’s marketing innovation. Going against all expectations and common practice, Alpargatas repositioned the brand from the low end of the market to the high end. During its first 30 years, Havaianas were considered a cheap sandal for low-income consumers in Brazil. But in the 1990s, the firm’s management radically changed its strategy, investing in new designs, advertising and exports to make Havaianas high-end footwear among consumers in Europe and the United States. The idea was to have Brazilian top models to wear Havaianas in different occasions and to sell to the world ‘the Brazilian way of life’: relaxed and, at the same time, sophisticated. The brand has gone from 44 different models in 1993 to over 6,000 today.

Cinépolis is a good example of business model innovation: The firm has successfully adapted the traditional movie theatre venue into a space where all kinds of entertainment can be enjoyed collectively. Through its VIP brand, The company gives the usual movie theatre experience an upgrade to luxury. The lobby of the theatre is grand with leather recliners, elegant décor, and relaxed ambience. Founded in 1971, Cinépolis today owns 2,320 screens worldwide, making it the
largest film distributor and theatre chain in Latin America and the fifth-largest movie theatre circuit in the world. This international firm employs 15,190 people and has a presence in Mexico, Colombia, Costa Rica, Guatemala, Panama, Peru, and El Salvador. In 2009, Cinépolis entered India as its first international chain of multiplexes. It also plans to enter the Chilean and Argentinian markets. In Latin America, Cinépolis introduced the concept of multiplexes with modern equipment that include stadium-sized cinemas equipped with digital sound systems and enormous screens. This was its main competitive advantage when entering India, one of the biggest film markets in the world. In 2010, Cinépolis reached an agreement with FIFA for exclusive rights to broadcast the football World Cup matches in its cinemas with digital quality.

Innovators can be differentiated into six varieties along two (see Figure 1). The first dimension is the size of the organisation (based on revenues). Size both enables and constrains how effectively and efficiently an organisation engages in innovation activities. It also influences the kinds of resources — such as credit — it can access.
The second dimension distinguishes between organisations driven primarily by maximising profits and those driven by maximising social benefits at large, such as poverty reduction, health care for the poor, social justice, and improved literacy. Understanding the benefits that an innovator seeks enables analysts to assess more accurately what critical success factors correlate with different outputs. Taken together, these help define different types of innovators; specific examples of each type of innovator are provided in Box 3 below.
Box 3: Five different types of innovators in Latin America

**Large firms** defined as those with more than 50 employees: Since 1984, when Adolfo Grobocopatel founded *Los Grobo* in Argentina, the company has grown into one of the largest grain producers and agricultural service providers in the world — yet it owns no land, no tractors, and no harvesters. *Los Grobo* provides logistical and grain storage services to farmers and produces soy, corn, and wheat on a total of 300,000 hectares in Argentina, Brazil, Paraguay, and Uruguay. The company is the second largest grain producer in Latin America with 250,000 hectares and 2.6 million tons of grain harvested per year and a turnover of US$550 million. The company has expanded to Brazil, Paraguay and Uruguay. Los Grobo’s innovative business model consists of an information-technology facilitated network of 3,800 small and medium-size agricultural suppliers. At its headquarters, 100 people provide inputs such as seeds, finance, technical advice, the sale and marketing of crops, and the deployment of technologies such as Global Positioning System (GPS) and agricultural simulation models to help the network of farmers manage soil resources and deal with climate risk. Gustavo Grobocopatel, Adolfo’s son and now president of Los Grobo, and describes the company process as a production line in the automotive industry. Los Grobo has achieved dual certification of soy production process under sustainability standards guaranteed by the International Sustainability and Carbon certification (ISCC) and the Round Table for Responsible Soy (RTRS).

**Corporate social responsibility: Causas.org** is a Mexican non-governmental organisation (NGO) created in 2005 by Vidal Cantu, Adolfo Franco and Arturo Franco, whose initial intention was to use the Internet to more efficiently link employees from corporations looking for volunteer opportunities with the organisations offering them. Causas.org has verified, registered, and classified over 9,650 NGOs. Consequently, it has developed into a comprehensive online directory of Mexican civil society. Causas.org gives each civil organisation in Mexico a free domain and hosts a simple
website where an NGO can communicate its mission and vision and social action, as well as blog, post videos and photographs, and — most importantly — solicit volunteers. Participating NGOs can also administer their own websites. Causas.org provides people looking to volunteer a place on the Web where they can search and compare various NGOs. In the first stage of the programme, Causas.org received financial support from companies such as Axtel, Coca-Cola Femsa, Cinépolis, and Scotiabank. These companies also participated in Causas.org Corporate Volunteering Programme, which generated more than 3,000 social action opportunities for their employees. In 2009, Causas.org was one of the winners of the National Solidarity and Volunteering Awards given by the government of Mexico.

**Small and medium-sized firms:** In Argentina, **Guerra Creativa** provides design services by leveraging crowd-sourcing in ways not previously seen in concept-to-design processes. This is an example of an Argentine so-called Enterprise 2.0, which uses new technologies such as social networks and wikis to increase innovation, creativity and efficiency. If a client wants a new logo or webpage, Guerra Creativa will host a design contest for a fixed period of time, then will enable the client to evaluate entries (often over 100), to select a winner. Guerra Creativa uses this process to design logos, websites, stationery, and flash and 3D designs. Guerra Creativa also enables designers to interact and learn from each other, hosts exhibitions of their work online, and provides feedback on the designs of others. A section of the site allows users to get exclusive tutorials, with step-by-step instructions for different techniques and advice from their interactive creative director. Currently, the community includes 3,400 designers who have already uploaded more than 11,000 designs and a total membership of 6,000 clients.

**Social entrepreneurs:** In 1995, Rodrigo Baggio, a former Intel executive and an Ashoka fellow, founded the **Centre for Digital Inclusion (CDI)** based on the concept of helping people to help
themselves. CDI Community Centres have three principal objectives: they are self-managed, they are self-sustainable, and they implement the CDI pedagogy. This unique approach requires that by the end of each four-month course, students will have used technology as the main tool to initiate, plan, implement, and complete a ‘social advocacy project’ aimed at changing an aspect of their lives. At the same time, CDI provides the teachers with training on the use of computers and pays them higher-than-average salaries (US$200 per month, which is more than twice the average salary of a teacher in the Brazilian public school system). Currently, there are CDI franchises in 816 community centers in Brazil and 12 more countries all over Latin America and in the US and the UK. The NGO counts with 1,036 volunteers, 1,726 educators, and more than 1,300,000 million people from low-income communities who have been certified. When CDI mobilised five internal working groups from different disciplines to innovate new solutions for efficient growth, the result was the creation of a new multimedia learning environment, new courses, new services with business plans, revised performance indicators, a new monitoring process, and an online platform for communication and collaboration. With the support of James Wolfensohn, former President of the World Bank and the Wolfensohn Institute, CDI is in the process of expanding to the Middle East and North Africa region, to be followed by India and other parts of Africa. Time magazine named Baggio one of ‘50 Latin American Leaders of the New Millennium’.

**Public institutions**: Public institutions are also significant innovators. A number of Latin American governments have launched public programmes to address innovation. Colciencias in Colombia, founded in 1995, is a public entity that promotes science, technology, and innovation activities in the country. With a US$200 million budget, Colciencias funds research in universities, companies, and technical development centres; awards scholarships to doctoral students; and helps set up regional information technology projects. The entity is focused on creating an attractive research environment for scientists in Colombia and has been active in establishing collaboration with
research institutions in Europe and the United States. Since 2006, 22 technological development centres have been created, 1,161 research groups have received funding from the programme, 1,045 doctoral students have received scholarships, and 203 companies have received funding for scientific innovation activities, most of them co-funded by the firms.

4. Measuring Innovation: From the old to the new

Possibly the most frequently cited indicator of innovation performance is public and private R&D investment as a share of gross domestic product (GDP). Latin American economies are well below the OECD average for R&D expenditure and the regional average is barely above a tenth of the R&D expenditure of South Korea (see Figure 2). However, some OECD countries (such as Greece, Poland, and Turkey) exhibit R&D investment rates similar to those seen in Latin America.

Figure 2. Expenditure in R&D as percentage of GDP (in percentages) in Latin American countries compared to some European countries and South Korea

Notes: All OECD values for 2008, including OECD average, except Mexico and Greece (2007). The average for Latin America is computed for the Latin American countries in the graph including Mexico and Chile and use World Bank data.
R&D investments have been a traditional indicator of innovation. However, we believe that R&D investment measures only a part of the innovation economy. It is necessary for certain kinds of product innovations, and R&D may increase firms’ capacities to adapt new technologies more generally. At the same time, differences in economic structures can lead to obvious disparities in levels of R&D. As such, economic sectors with lower R&D intensity — for example, natural resource-based sectors such as agriculture, mining, and petroleum extraction — account for a larger share of GDP in Latin America than in other countries, and therefore aggregate R&D investment rates in Latin America could be expected to be lower. There are also differences within the region: it is heterogeneous and characterised by the coexistence of different production structures.

Other more traditional indicators for the innovation intensity of an economy include patent applications. Again, the gap between OECD (averaging at 4,215 in 2009) and Latin American (44, in the same year) countries is wide; even the top Latin American performers — Brazil and Mexico — are well below the OECD average. In fact, there is a high level of concentration: in 2006, Japan, the United States, South Korea, Germany, and China represented 76% of all patent filings. It is worth noticing the rise of three Asian countries (Japan, South Korea and China), the last two of them, still considered emerging countries among the five countries with more patent applications in the world.²

High-technology exports as a share of all manufacturing exports can also be taken as a proxy for technological specialisation of production structures. Latin American countries are less specialised in high-tech exports than OECD economies: on average, 8% of Latin American exports are characterised as high-tech, against 14% of OECD exports. However, this indicator does not capture the effective value-added generated in the country, and there are some caveats regarding its interpretation. For example, the case of Costa Rica (39%) is basically explained by Intel’s share of its total exports in the

Source: Main Science and Technology Indicators (2010-2), OECD Statistics, World Bank, World Development Indicators.
country’s relatively small economy; in Mexico (19%), the large number of assembly plants (the so-called maquilas) has a similar effect on statistics.³

A fourth commonly accepted measure for innovation, albeit a broader one, is productivity. Changes in productivity at the macroeconomic level are typically measured using the concept of total factor productivity (TFP). If one can quantitate all the inputs (types of labour, equipment, infrastructure, etc.) used to produce a country’s GDP in a given year, and there is no change in inputs but an increase in GDP the following year, the difference in growth is attributed to TFP. This corresponds, roughly speaking, to the efficiency with which inputs are combined. At least part of TFP growth can be explained by innovation, which should allow an economy to produce more output from a given quantity of labour and capital. Chile’s TFP growth exceeded that of the United States over the last half century, and Brazil’s nearly matched the US rate (see Figure 3). But for many countries in the region, the productivity gap with the United States is widening at the same time that other emerging markets are closing their productivity gap with respect to the United States.
The statistical evidence provided above characterises some aspects of innovation in Latin American economies. By developing a set of additional indicators, the multidimensionality of innovation can be better understood and measured. Prominent examples of new measures for OECD countries are those focusing on investment in intangibles and data from firm innovation surveys, including the percentage of firms that introduce new-to-market products and marketing and organisational processes (to measure innovation at the firm level). The ‘tangibles’ include machinery, equipment, and structures, while the ‘intangibles’ cover organisational and human capabilities and software, as well as trademarks and immaterial assets for which customers are ready to pay (such as design). Many of these measures are introduced and explained in the OECD Innovation Strategy, launched in 2010 (OECD 2010a). Efforts are under way to develop and adjust such indicators for Latin American countries as the basis of a better understanding of their innovation performance. The Global
Innovation Index (2011) combines variables used to monitor innovation performance to include those more relevant to emerging economies.

In order to provide fresh insights into different manifestations of innovation in Latin America, the project developed the InnovaLatino survey (Innovalatino 2011). This survey gathered up-to-date information on innovation activities from a large number of firms in the region, including information regarding the impact of the Global Financial Crisis upon firms' innovation projects. As a disclaimer, we have to note that the scope and methodology of the survey differ from those of national innovation surveys implemented by national statistical agencies in many of these countries. Therefore the InnovaLatino survey results do not always coincide with those from other surveys. The survey targeted firms in the manufacturing sector (comprising categories 15–37 of the ISIC Rev. 3 classification), 5 allowing for uniformity of what is meant by ‘innovation’ across different firms. As a result of the restriction to manufacturing and the emphasis on larger firms, the initial sample may not be, by design, not representative of the entire population of firms in the eight countries (Argentina, Brazil, Colombia, Chile, Costa Rica, Mexico, Peru, and Uruguay) covered.

The survey was implemented between November 2009 and January 2010 in the eight countries mentioned above, and post-stratification weights based on firm size and sector of activity were implemented to better reflect the population of firms in each country. These weights were constructed with reference to firm size and innovation-intensity of the firm's sub-sector. Some results worth highlighting are presented in Figures 4 and 5.
**Figure 4.** Manufacturing Firms from Argentina, Brazil, Colombia, Chile, Costa Rica, Mexico, Peru, and Uruguay introducing product innovations that are new to the world, the market, or the firm.

Note: Percentage of manufacturing firms reporting product innovations to the world, the national market or the firm.
Source: 2009-2010 Survey conducted for InnovaLatino: Fostering Innovation in Latin America (2011)

Figure 4 illustrates that firms in Latin America (we should have further data to find out if this holds to the region in general and other emerging markets) introduce a majority of innovations that are new to the market and to the firm, rather than the world. Brazil presents the highest proportion of innovations that are new to the world, at 36%. Figure 5 shows that the sources of information used
for innovation are similar for small and big firms and about 80% rely upon internal sources and suppliers, clients and other firms. Consultancies and universities have less influence although big firms use them more than small firms. Big firms have more financial resources and almost 45% of them (vs 30% of the small firms) use consultancies. However, and following a more general claim for the region, universities do collaborate much less with big firms (a little bit over 30%) and small firms (20%). Collaboration between universities and companies as a source of knowledge and innovation is much more common among western world countries.

The InnovaLatino report (see www.innovalatino.org) presents the results over a dozen questions for eight countries and distinguishes responses between smaller (fewer than 50 employees) and larger (more than 50 employees) firms. The InnovaLatino survey provides a rich perspective on the broad diversity of innovation in Latin America in the critical manufacturing sector.

5. Learning from Latin America

Coming out of the research, we have identified five characteristics of Latin American economies, which must be kept in mind when seeking to strengthen their innovation capacity. Their analysis may also offer important lessons for emerging countries and beyond seeking to strengthen their innovation agenda amidst similar conditions.

**Characteristic 1. Innovation in a natural resource—abundant economy.** A key challenge for Latin American economies is to define how to promote innovation in the natural resource sectors that currently dominate the economy and, in parallel, how to further develop other sectors that offer higher productivity gains (diversification). Recently, strategies have been developed with a clear sectoral focus, and the choice of sectors has been pragmatic: to support the strengthening of competitive clusters around natural resources, as well as to simultaneously encourage the
development of more value-added services. Firms are rising to the challenge of boosting innovation in natural resource–intensive sectors; an example of this is provided by EMBRAPA, the Brazilian Agricultural Research Corporation, a public research institute. EMBRAPA, created in 1973, is behind the transformation of Brazil in an agricultural power house and the 150% increase of productivity (vs an increase of the agricultural land of only 20%) in the sector in the last 30 years. In the field of policy initiatives, Chile’s Development Agency (CORFO) has launched focused programmes to promote process innovations in the mining sector and to introduce new species of fish in the aquaculture sector. Similarly, in Argentina the development of dynamic clusters linked to natural resource–intensive sectors has received public funding (from FONTAR — Fondo Tecnológico Argentino) to execute both individual and associative innovation projects. This has been the case, for example, of the agricultural machinery cluster.

**Characteristic 2. Policies to build innovation skills by enhancing formal education and linking universities and the business sector in Latin America and beyond.** Human resources are vital to innovation. Successful innovation policy must, accordingly, be grounded in measures to help people acquire (or upgrade) and deploy the skills and creativity they need to innovate. This begins with formal schooling — starting from early-childhood interventions all the way up to doctoral-level university studies — but also extends to the context in which educational institutions interact with the business sector and the way that information flows among them in the innovation system. The InnovaLatino survey highlights that cooperation with education institutions and firms more generally is increasingly recognised as important. For more than two in five firms (44%), cooperation is very important for the development of their innovation activities, and about the same proportion (41%) actually engage in some form of cooperation. Universities in Latin America — such as Tec de Monterrey, in Mexico, University of São Paulo in Brazil, Universidad de los Andes in Colombia, Universidad del Pacífico in Perú, Universidad Católica in Chile — can and are starting to play an important role in this area.
**Characteristic 3. Partnering and cluster policies.** Given the complexity and high cost of many forms of innovation, businesses increasingly recognise the benefits of partnering. A large share of firms included in the InnovaLatino survey drew upon varied information sources: In addition to information resources internal to the firm, information was received from providers, clients, and other firms. During the last decade, a number of Latin American governments implemented policies to promote clusters for different purposes: fostering SMEs, such as the Arranjo Productivo Local programme carried out by SEBRAE in Brazil; promoting regional development as in the case of the cluster programme of Antioquia, Colombia; or looking for innovative solutions to challenges faced by a sector or group of companies, as in the case of the Technology Consortia Program implemented by Corfo in Chile.

**Characteristic 4. Innovation and green growth.** Innovation is centrally important to combating environmental degradation and can be a key factor in making green growth possible through the development and deployment of environmental technologies. Some Latin American governments and firms are already shifting to more green growth models. Latin America is the second-largest biofuel-producing region of the world. Brazil dominates the region's production, producing ethanol from sugarcane, with Colombia a distant second. Brazil’s capacity to move into ‘second-generation’ biofuel production — with net lifecycle greenhouse gas emission reductions — is probably as great or greater than the capacity of any other economy in the world. Examples of green innovation, though perhaps isolated at present, extend well beyond biofuels in Latin America. Grupo Islita, for example, a member of the World Heritage Alliance for Sustainable Tourism, leads a group of Costa Rican enterprises with the common goal of promoting responsible tourism practices that foster cultural authenticity, economic opportunity, and optimum environmental stewardship. Explora hotels in Chile are another example of blending sustainable growth and respect to the nature.
**Characteristic 5. Adequate information systems.** Among the shortcomings of current innovation indicators, the first, as pointed out above, is that existing measures are ill-suited to monitoring the innovation economy of middle-income countries such as the majority in Latin America. Frequently cited variables — such as R&D expenditure, patents, scientists in the population, and trademarks— are undoubtedly of great importance, but they focus on technologically oriented, patentable innovations and fail to capture non-technological innovations and new-to-market or new-to-firm innovations. The development of new and more comprehensive indicators as advocated by the OECD Innovation Strategy will help improve innovation measurement and policy assessment.  

6. **Key public policy tools for fostering innovation**

With regard to critical success factors for fostering innovation, several Latin American countries have institutionalised good practices that create a better environment for innovation. During the last decade, Chile has created a National Council for Innovation and Competitiveness to ensure that ministries and departments coordinate their actions and take a suitably long-term view of innovation policy. The country is also using the increased revenues from commodity exports, mainly copper, to support innovation. Brazil’s institutional innovations include the widely praised activities of FINEP, the federal innovation financing agency, which in recent years has created an innovation incubator and venture capital vehicles to promote innovation. Other cases of experimentation can be found throughout the region.

Based on these practices and on the aforementioned key aspects of the region, we recommend leaders from the public and private sectors to consider the following:

**Strengthening innovation in Latin America begins with strengthening people** — researchers, entrepreneurs, managers, employees, suppliers, and customers of firms. Empowering people to
innovate calls for more and better education for all. This involves developing different types of competences: basic literacy skills, occupational skills, and global knowledge economy skills, as well as offering adequate retraining opportunities. As countries pursue these educational goals, they will equip their economies to become better able to absorb, adopt, adapt, and generate new ideas and technologies. This means not only improving universities but also primary and secondary education as well as vocational schools. There is a shortage of technicians for the oil industry in Brazil right now.

A second group of actors in an innovation system are firms. Businesses are the place where knowledge and ideas are translated into new products, services, and business models. Innovation policy should recognize the diversity of firms in terms of size and sectoral specificities, and should foster actions and instruments suited to the characteristics of the economy. International organisations should also recognize the diversity of countries in terms of their portfolio of industry sectors and the distribution of different types of firms (e.g., their size and whether their primary objective is to gain profit or enhance social well-being). For example, the InnovaLatino survey found that in Argentina, over 50% of participating large firms were conducting projects with foreign firms, whereas significantly fewer participating small firms (less than 30%) conducted projects with foreign firms. In contrast, in Colombia, significantly more participating small firms (35%) reported conducting projects with foreign firms than large firms (18%). In particular, targeted support to micro, small, and medium-sized enterprises is vital because of their importance for employment generation and also because of their vulnerability to failure in their early years. The Plano Maior launched in 2011 in Brazil aims to incentivize the innovative initiatives of Brazilian firms.

Strengthening institutional and infrastructure capacities for scientific research and developing incentives to support the diffusion and application of scientific outcomes to production development
are also key elements of success in innovation policies. We have mentioned the impact of EMBRAPA, which should be followed in the region.

A tangible and intangible infrastructure for innovation is crucial. It requires investment and the provision of adequate regulatory frameworks. High-speed broadband connections, in particular, offer an important platform for boosting entrepreneurial activity in many countries of the region, but these are also important for providing basic public services such as health and education to disadvantaged sectors of the population.

As innovation is an inherently risky undertaking that requires long-term financial commitment, public policy must encourage adequate financing to enterprises.

Successful innovation policy requires a long-term commitment from legitimate institutions with clear mandates, as well as coordinated action among ministries, agencies, and other levels of government, calling for improved means for designing and implementing coherent policies.

In addition to coherence among ministries, actors, and policy domains, innovation policy implies greater coherence between supply- and demand-side policies. The former typically include funding basic research or increasing levels of schooling; the latter include smart regulations, standards, pricing, consumer education, and tax measures.

Finally, policy measures to unleash and support entrepreneurial creativity in Latin America cannot ignore policies directed toward the informal sector. Roughly one out of two workers in the region is part of the informal sector, and in some countries a majority of middle-class households work informally. Effective innovation policies cannot overlook this part of the economy. The success of the 2011 SEBRAE initiative to formalize 1 million Brazilian workers should be celebrated.
Latin American countries — like other emerging economies — illustrate that our conception of innovation can no longer be limited to the activities of laboratories and investment in R&D. The InnovaLatino report’s original firm-level indicators and data show that small and large firms in the region are innovating in this broader sense, even as most R&D expenditure in the region is largely publicly financed and quite low by international standards. How can the considerable creativity and innovation in the region and reported by firms be translated into better economic and social development? With the new measures and analyses included in the InnovaLatino report, Latin America can be better armed to tackle the challenges posed to lagging productivity and to seize the window of opportunity to sustain a ‘Latin American decade’.
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1 August 2010.


Notes

1 IDB (2010) exhaustively reviews the Latin American productivity gap and the policy measures that might help to close it, including policies to promote more and better innovation. See also the InnovaLatino background paper by Daude (2010), which focuses on the productivity-innovation link in Latin America.

2 Patent applications to the European Patent Office; see the OECD Patent Database, 2009


4 OECD, 2010a.


6 OECD, 2010a.
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