

Latin America in a Changing World

NEWSLETTER

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DIALOGUE

This publication is the second in a series dedicated to raising awareness of global trends analysis and how future scenarios will affect Latin America. In the Question and Answer section, experts from throughout the region examine the most important global trends for Latin America and how policymakers should address them. In the second section, Program Director Sergio Bitar discusses the need for a stronger relationship between global trends analysis and education policy. The final section offers a summary of Bitar's recently published book, *Why and How Latin America Should Think about the Future*.

Q & A: Key Global Trends for Latin America

Global trends analysis has received increased attention in recent years, given its importance for effective long-term policymaking. In our first newsletter, *The World of 2030: Risk and Opportunities for Latin America*, we reviewed the findings of four of the most prominent studies in the field, by the United States National Intelligence Council (NIC), the European Union Institute for Security Studies (EUISS), the Atlantic Council, and the Millennium Project. Many others have been released recently, including by the European Strategy and Policy Analysis System (ESPAS), the Oxford Martin Commission for Future Generations, and our own *Why and How Latin America Should Think about the Future* (summarized on page 10), written by Program Director Sergio Bitar. In order to draw additional lessons from this type of analysis for Latin American countries, we asked five experts to identify key global trends for the region and to discuss how policymakers can address them.

Q: In your opinion, which global trends will have the most significant impact on the region? Which issues should Latin American countries emphasize—or which policies should they change—to confront these challenges, avoid risks, and take advantage of opportunities? How should countries organize themselves in order to do so?

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Global Trends and the Future of Education in Latin America

By Sergio Bitar

The fields of global trends forecasting and education policy analysis are both critical to achieving positive governance and economic outcomes in Latin America. Yet research in these areas has developed in parallel, with little systematic interaction between them. In an effort to close this gap, I draw on my own experience in both fields to summarize below six key themes derived from global trends analysis with relevance for education.

Productivity and employment

Low education quality in the region constrains productivity and hampers economic growth. The Organisation for Economic Cooperation and Development (OECD) estimates that if all students in OECD countries achieved mathematics scores in just the second lowest of six levels on the Programme for International Student Assessment (PISA) exam, economic output would increase by about US\$200 trillion.¹ Higher levels of learning would presumably have even greater effects on productivity.

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¹ OECD, "PISA 2012 Results in Focus." December 2013. <http://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf>, p. 9.

FOREWORD

As government agencies, policy and research centers, corporations, and banks across the world focus increasing attention on long-term global trends, Latin America and the Caribbean are falling behind. While institutions in Europe, the United States, and Asia are using studies of political, economic, social, and security scenarios to inform policy decisions, few Latin American institutions are engaged in the data collection, research, or analysis that are essential to understanding these trends and incorporating them into policy.

Against this backdrop, the Inter-American Dialogue launched its Long-Term Global Trends initiative in 2011 with the support of the Inter-American Development Bank. The program aims to provide information on the trends and scenarios that help develop strategic thinking in Latin America, and to build the capacity of regional experts and institutions to carry out long-term studies and disseminate the results. This goal could be reinforced by evaluating the development strategies being designed and applied in successful mid-size countries elsewhere.

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The Dialogue is particularly grateful to Bitar—a former minister and senator in Chile—for the significant effort he has devoted to conceiving and shaping this important program.

Michael Shifter

President

A: Eduardo Raúl Balbi, President of the Scenarios and Strategy Network (Red EyE) of Latin America (Argentina):

Without a doubt, each of the six global trends outlined [in Bitar's analysis] will have a significant impact on the region, although to varying degrees in different countries and zones. However, the combination of some of these trends could, in my opinion, be the origin of high-conflict scenarios as well as opportunities, depending on how each situation is handled. The concept of “dual scenarios” applies strongly to these situations, which simultaneously present risks and opportunities and result in one outcome or another depending on how they are managed. For example, disruptive technologies combined with citizen empowerment and government transformation could provide substantial opportunities to improve the quality of governance and spur a positive qualitative shift towards a modern and dynamic republican democracy. At the same time, if this scenario unfolds in an unlimited, unguided, or possibly chaotic environment, there is increased risk that new forms of organized crime or uncontrolled (or perversely led) social unrest will arise, upsetting public institutions and severely affecting governance. Similarly, long-term prevention proposals using modern urban and regional foresight studies can immensely leverage the positive combination of changing demographics, future cities, and the power of natural resources. However, if such vital strategic foresight is not achieved, the negative combination of a disorderly and uncontrolled demography, future cities on the brink of total chaos, and unequal and growing demands for natural resources could create critical and highly dangerous scenarios.

Societies through all their participation and organization schemes, and especially governments and the symbolic figure of the state, must immediately and without hesitation assume the task of comprehensive, complete, and permanent strategic foresight at all levels and in all their responsibilities. From the highest political and strategic levels to the particular implementation of plans and programs, the

fundamental goal of good governance should be, among other things, adequate and ongoing risk management and prevention in all its forms. The only way to achieve this goal is through the aforementioned idea of strategic foresight. We know *what* we need to achieve—strategic foresight—and *for what*—to manage risks and prevention. All that remains is the *how*. For this, we propose strategic foresight studies as the best and highest quality manner of producing sufficient and constant Strategic Intelligence, Business Intelligence, and Competitive Intelligence (or whatever they may be called in each case). In short, this is the “strategic route” for risk prevention and management that modern times require.

Countries should treat risk management in all its forms as the foundation for continuous improvement of the citizens' quality of life and the common good.

— Eduardo Raúl Balbi, Argentina

To follow this route, countries should urgently introduce a cultural shift to address the dynamics of inherited, present, and future needs. They must incorporate continuous risk management and prevention tactics into their planning processes or prospective strategic planning. They should treat risk management in all its forms as the foundation for continuous improvement of the citizens' quality of life and the common good, expressed throughout the general governance process. This will surely involve adaptations to both policy and law, along with training staff, developing new knowledge and skills, and an integral reformulation of the endogenous participatory dynamic of multiple government agencies. These changes also require a strong, cooperative and continuous interaction between state and society, in all its forms and organizations, in order to decide upon and build desired future scenarios that satisfy all, or at the very least, most people.

A: Banning Garrett, Strategic Foresight Senior Fellow for Innovation and Global Trends at the Atlantic Council's Brent Scowcroft Center on International Security (United States):

Looking out to 2030, technological change and its impact on society may be as pervasive a “megatrend” as globalization

was considered a decade ago. Perhaps the biggest technology revolution affecting society will be “connectivity” itself. Nearly every person on earth will have broadband Internet, connecting her or him to any other human on the planet, to nearly all local and planetary information, including economic data, education (through whatever MOOCs look like in 15 years), and even real-time evaluation of their own health status through cloud-based analysis of data supplied by sensors reporting on their own bodies. Moreover, tens of billions and perhaps trillions of “things” of significance to individuals and society also will be connected to each other and to us through the “Internet of Everything.” Finally, Internet connectivity will be an enabler of a profound shift in producing material objects through 3D and 4D printing and other advanced manufacturing technologies, which will eliminate vast numbers of supply chains as “.stl” design files rather than material products themselves will be shipped around the world, leading to on-demand, “just-in-time production at the point of consumption.” This will enable import substitution of many consumer products, as well as far more efficient use of natural resources, far less waste, and greatly reduced carbon emissions from both the transportation of goods and the process of production itself. In short, there will be major changes to the global economy, including reduction of exports of manufactured goods and far more opportunities for individuals and small groups to engage in design, manufacturing and marketing of goods and services.

This new world presents great opportunities as well as challenges for Latin America. The countries most likely to succeed will be those that embrace connectivity for all their citizens, thus focusing on development of human capital by advancing education and training, as well as creating the foundation for enhanced entrepreneurialism and innovation. This connectivity also will provide new opportunities to enhance governance, especially in urban regions, through transparency and citizen participation. In the resource-constrained world of 2030—which will likely be experiencing greater climate change impacts and demands for reductions in carbon emissions—the technology revolution, underpinned by connectivity of people and things, will provide the *sine qua non* for seizing opportunities and meeting the challenges, including by building smart cities, reducing carbon emissions, transitioning to low-carbon,

efficient transportation systems, and more efficiently using water and energy while producing more food for a growing population and middle class.

A: Celso Lafer, President of the São Paulo Research Foundation (FAPESP), former Minister of Foreign Affairs, and former Minister of Development, Industry, and Trade (Brazil).

The idea of effectively inserting prospective and strategic studies into Latin America’s decision-making about the future is very relevant. The macro trends Bitar’s report addresses—the speed with which knowledge is expanding and its impact on information technology and flows; how population and economic growth have given new significance to natural resources such as water, minerals, energy, and food; demographic shifts and their implications for the middle class and human migration; growing urbanization and how to manage cities of the future; climate change; the challenges to democratic governance presented by the digital revolution and citizen empowerment—are highly relevant, and provide us all with a sense of direction that goes far beyond a mere analysis of our current situation or short-term problems. For this reason, the study of global trends is a modern form of planning—one focused on increasing control over our regional future in a fragmented and globalized world. The report is a significant contribution to better understanding how our region can orient itself in history and expand its *locus standi* in light of Asia’s growing clout.

A: Jorge Máttar, Director of the Latin American and Caribbean Institute for Economic and Social Planning (ILPES) at the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) (Chile):

Climate change is one major factor. Latin America is a global provider of many vital resources (water, land, energy) whose cycles and composition have already started to change significantly. Regional economic prosperity and integration have depended on these resources; today there is great uncertainty about whether they will continue to be a source of prosperity or of impoverishment.

A second global trend that will have a significant impact on the region is its *aging population*. The countries of the region will reach more mature demographic structures at

different rates and times. These changes will affect work patterns, consumption, savings, education, and financing, and will alter processes of migration, urbanization, and the spatial distribution of the population.

It is essential to raise awareness of the aforementioned factors and generate *knowledge* on the dynamics of change that they represent, their possible trajectories, magnitudes and intensities, and how they can potentially impact the region.

Public policy needs to improve rapidly in order to meet the scope and accelerated pace of change. Countries of the region also need to be familiar with how others have successfully managed these changing contexts, and discuss desired policy alternatives and their viability. Since changes are not confined to national borders, a *regional panoramic view* and coordinated response to these factors is needed. Internationally agreed upon and coordinated responses to these challenges can be adjusted to fit the nature of the problem.

It is indispensable to have mechanisms that allow for articulation between different levels (global, national, sub-national, local), sectors, and timeframes (short, medium, and long-term). Existing mechanisms of regional and sub-regional cooperation could incorporate discussions of the global future, its impact on the region and ways of coping with changes into their respective agendas.

A: Javier Medina, Tenured Professor at the Universidad del Valle (Colombia):

In order to adequately prepare for the major global transformations underway, Latin American countries should strengthen their prospective capacity in at least two ways. In macro terms—at the level of the state and public policies for development—the state should be pre-active and proactive

in confronting the transition in development models, rather than serving merely as an arbitrator or passive observer in the field. This means placing renewed value on planning and organizing planning institutions through systems that give primacy to system-wide strategic long-term thinking at all levels (national, territorial, and sectoral). In micro terms—at the level of people and institutions—forward-looking organizations must be created that make it possible to implement regional activities, networks, centers or institutes, and national and international prospective programs.

Of particular importance is the need to construct and/or strengthen centers and institutes that are on the frontier of prospective knowledge and that are skilled in the

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—Celso Lafer, Brazil

broad repertoire of methods and prospective processes that currently exist. The continuity and quality of their findings should be oriented toward updating current mental models in the traditional political-institutional system. Unilateral and short-term visions, with little reach and responsibility, must be replaced with high-quality shared visions of the future. These visions should seek to integrate the continent with global dynamics, generate permanent analysis of state-of-the-art thinking, undertake international comparisons of development gaps and scenarios, and produce alerts on emerging trends. Working together, international organizations and government leaders can foster collaborative networks and joint exercises that generate new capacities at the highest levels of the state, among middle management, and among development planning experts and public policy decision-makers.

Global Trends and the Future of Education in Latin America

(continued from page 1)

At the same time, forecasting scenarios predict that acceleration in the pace of technological and scientific progress will increase global competition for good jobs and well-qualified workers, while innovative processes such as 3-D printing and robotics will replace low-skilled labor.

These realities suggest that education systems will need to adapt to changing labor-market needs in order to train students that can contribute to and lead growth in their countries, as well as to prevent worrisome levels of unemployment. The speed of technological change requires a rapid relocation of low-skilled workers whose jobs become obsolete, so as to re-energize the economy and reduce social costs.

High unemployment levels—especially among youth—dampen entrepreneurial spirit and discourage risk-taking, instead prompting the opposite effect of heightened pressure to improve unemployment benefits. Increasing the number of years of schooling can help alleviate this problem, but ministries of labor and education on the one hand, and technical training centers and businesses on the other, must work together more closely to address it fully.

Yet in Latin America, a disconnect persists between the technical training provided in schools and the skills sought by businesses. Both education and business leaders must

Countries will also have to ensure that schools focus on student learning and pay special attention to those who fall behind. Additionally, interconnectedness and competition will require education systems to improve foreign language training.

Finally, leaders must recognize that the jobs of the future will require not only high-quality K-12 and university education, but also life-long adult education to enable employees to stay up-to-date with rapid developments in their fields of expertise. Latin American countries will have to devise new policies to address these concerns, and should use the objectives and policies of countries with high levels of learning to provide lessons learned and reference points for improvement.

Asian countries and institutions have done a better job of addressing these concerns than their Latin American counterparts; their experiences may offer important lessons for the region (see “Asia: A Benchmark for Latin America,” below).

Disruptive technologies

Two aspects of technological change are likely to interact with education in the future: first, how education systems train students to use technology; and second, how technology is used to provide education.

With regard to the first, Latin America must improve training in science and mathematics in order to stimulate technological innovation and growth. The “Google” era also

requires that students learn how to search, select, interpret, reason, and infer from the abundance of data available at the tap of a finger.

In addition to these more concrete skills, some analysts argue that emphasis should be placed on cognitive skills in order to foster innovation. These include training in the humanities (philosophy, history, and languages), teamwork, high self-esteem, and oral and written communication skills. Finally, the region needs to cultivate relationships with global research and education networks so as to capture and build on emerging scientific knowledge. To meet this challenge adequately, Latin American countries must take stock of the

The “Google” era ... requires that students learn how to search, select, interpret, reason, and infer from the abundance of data available at the tap of a finger.

take a proactive approach to addressing this problem by communicating clearly and frequently with each other to develop curricula and advise students effectively. Businesses should devote consistent attention to on-the-job training. The labor market needs to be reformed in order to align policies that stimulate the development of formal businesses and create incentives, so that businesses work with the state to retrain workers.

skills they currently offer students relative to those that will be needed in the future.

With regard to using technology to provide education, systems throughout the region are experimenting with different ways of incorporating technology into their teaching methodologies. One-laptop-per-child programs have received particular attention and have sparked broad debate. Such programs can expand students' exposure to educational materials, increase access in rural areas, and supplement the instruction of local teachers with that of experts elsewhere in the world. But are these benefits worth the high up-front costs, and do children actually use the computers for learning?

Another important development in this area is the Massive Open Online Course (MOOC) program, which provides online access to courses taught at some of the world's most prestigious universities. Its development raises the question of whether the current university model is sustainable or whether new technologies will radically change the way students learn. The MOOC program also serves as an example of how technological change could affect teacher training, as future instructors could be tapped into global online networks and lectures to prepare them to enter the classroom.

Looking to the future, the field of neuroscience could lead to significant changes in the provision of education. For example, individualized student instruction could be based on the cognitive characteristics of each student. Latin American policymakers must be ready and able to respond to such education innovations, and use them for the benefit of students and the economy as a whole.

The middle class and population changes

Demographic shifts and the expansion of the middle class are the most powerful and predictable global trends in all foresight studies. Experts expect that by 2030, the size of the middle class will have grown from current levels of 1 billion to 2 or even 3 billion people.² How will this affect education?

Experts expect that by 2030, the size of the middle class will have grown from current levels of 1 billion to 2 or even 3 billion people.

One consequence of this demographic change will be a rapid expansion of demand for secondary, university and technical education, as families and youth consider education to be the main path for social mobility. Additionally, if middle class families are unable to find high-quality education in public schools, they may seek private education—putting pressure on public and private schools alike. In Latin America, changes are already being felt. In order to meet growing demand, education systems will need fiscal resources, new and/or larger facilities, new standards, remedial education for those from low-quality schools, and renewed efforts to reduce dropout rates and orient training toward priority fields.

Another important trend is that in many Latin American countries, women's educational attainment is already equal to and in some cases surpasses that of men. Women's workforce participation, however, remains a challenge. Addressing this challenge will require the support of the social system, through maternity leave and childcare, better quality early-childhood education, training for pre-primary educators, and additional training for mothers returning to the labor force after extended maternity absences.

Early childhood education is particularly critical to children's long-term educational success. In addition to high-quality preschools, parent training is needed to help mothers and fathers effectively support the early stages of their children's education in the home.

Finally, population trends also highlight the fact that people are living longer, and the rapid development of biotechnology and "human augmentation" allow us to envision even further increases in life expectancy. Such changes would have major implications for the labor force. In particular, if people work longer they will need more training throughout their lives to stay up-to-date in their fields of expertise.

Other population changes that may affect education systems include a decline in primary and secondary enrollment rates lower birth rates. It is critical that Latin

² National Intelligence Council, "Global Trends 2030: Alternative Worlds." December 2012. http://www.dni.gov/files/documents/GlobalTrends_2030.pdf, pp. 8-9.

American policymakers measure the impact of these population changes and develop long-term plans to address them.

Inequality

Global trends scenarios predict more prosperity and well-being for all, but also an increase in inequality. Innovation, technological progress, and growth will not automatically result in equality, and education policies alone cannot fully

Of the 65 countries that participated in the 2012 PISA exam, seven of the top 15 performers in mathematics were Asian, while all eight participating Latin American countries fell among the bottom 15.

address the problem. Thus, effective social policies will be needed to ensure greater equality in education systems and in society at large.

There is a robust correlation between the socioeconomic level of a child's family and his/her performance in school. Higher dropout rates, lower secondary and tertiary education coverage, and low teaching quality in the poorest areas are persistent problems in Latin American countries. Moreover, schools in poor areas lack the high-caliber teachers and principals (and enough teachers and principals in general) needed to substantially correct these inequalities.

This scenario contrasts sharply with conditions in countries (such as Scandinavia and some Asian countries) that have more inclusive schools, more egalitarian societies in general, and higher education performance.

The issue of inequality warrants further analysis of the successes and failures of social and educational policies implemented by other countries. Such policies include improving the quality of the teaching profession, expanding preschool coverage among the poorest families, promoting inclusion and social integration in schools, increasing access to higher education, and improving coordination and alignment between the education system and the labor market.

While emphasis should be placed on the need to reduce inequality in the education system, it is also important to recognize the importance of pursuing policies to support "top performers." The results of the 2012 PISA exam suggest that in addition to reducing the percentage of students who do not reach a satisfactory level in reading and mathematics,

it is crucial that Latin American countries increase the percentage of students who score at the highest levels, so as to foster competitiveness and raise the standard of the system.

Less than 2 percent of students from participating countries in the region scored in the two highest levels in mathematics, compared with 55 percent in Shanghai, more than 30 percent in South Korea, and more than 12 percent in OECD countries in general.³

Increasing the number of top performers in primary and secondary education will also help Latin American

countries to gain ground at the tertiary level, including by preparing more students to study at the world's leading universities. The region currently lags far behind Asia in numbers of students studying at US schools.⁴ Increasing the region's representation will be a critical factor in helping Latin America to carry out cutting-edge scientific research and technological innovation.

Asia: a benchmark for Latin America

Another important global trend in the next 20 years will be the increasing weight of Asia (China in particular) in the global economy and geopolitical sphere, supported in part by the region's increases in productivity and education quality.

Latin America has failed to make comparable gains, leading to a widening education performance gap between the two regions. Of the 65 countries that participated in the 2012 PISA exam, seven of the top 15 performers in mathematics were Asian, while all eight participating Latin American countries fell among the bottom 15.⁵

³ PREAL Blog, "2012 PISA Results: LAC continues to lag in education performance." December 2012. <http://prealblog.org/2013/12/04/2012-pisa-results-lac-continues-to-lag-in-education-performance/>.

⁴ Bitar, Sergio, "Why and How Latin America Should Think about the Future." December 2013. http://thediologue.org/uploads/IAD9936GlobalTrends_fin.pdf, p. 32.

⁵ OECD, "Snapshot of performance in mathematics, reading and science." December 2013. <http://www.oecd.org/pisa/keyfindings/PISA-2012-results-snapshot-Volume-I-ENG.pdf>.

Latin America should draw lessons from the Asian experience that might illuminate how the region can advance new policies to close this gap. Factors that may contribute to Asian countries' relative success include higher levels of "time on task," or the actual amount of time students spend learning each year (as opposed to simply being present at school); higher teacher quality; better linkages between the labor market and the education system; and a culture that encourages discipline and that values education and meritocracy.

Citizen empowerment and governance

Three of the most prominent global trends—interconnectivity, globalization, and multipolarity—will open new horizons and scenarios that will affect education and its institutional organization. A better informed public, and citizens that are more empowered, will demand more of the state in its allocation of resources and adoption of policies to improve education (reducing inequality, aligning the education system with the labor market, training parents, and fostering social inclusion).

Public opinion, operating through networks, will place greater political pressure on national leaders to improve education and to find new ways of acquiring and disseminating knowledge. This would be a positive development, and governments should anticipate—with a long-term outlook—the nature of new requirements and financial needs, instead of simply improvising when pressure mounts.

This development could favor policies geared to raising the quality of teachers and the prestige and salaries of the teaching profession in general, so as to achieve improved education results that are closer to those of leading countries in Asia and elsewhere. Additionally, these heightened expectations can be channeled in favor of a stronger public conviction that it is possible to improve results in short periods of time with collective effort.

New global challenges are emerging that cannot be handled by individual countries in a multipolar world. The lack of institutions capable of dealing with new global risks will require the training of students that can solve these problems through collaboration. New curricula and exchanges are critical to developing methods of producing global public goods; solving the causes and consequence of climate change, inequality, terrorism and fundamentalism; and ensuring equal rights for all.

Conclusion

The fields of global trends and education policy have much to offer each other in efforts to improve the quality of education in the region and overall economic and governance outcomes. While progress has been made on facilitating coordination between them, maintaining and expanding this interaction will require concerted effort by Latin American leaders and experts in both fields. We must use the analysis of possible future scenarios in the present to design the policies that will help us achieve our desired outcomes.

Why and How Latin America Should Think About the Future

Profound transformations in the global economy, information and communications technology, climate change, and social dynamics inextricably connect Latin America to developments beyond the borders of individual nations. Yet a tendency to focus on short-term domestic agendas puts Latin America at a disadvantage in systematically addressing this new reality. Dialogue Senior Fellow and Global Trends Project Director Sergio Bitar discusses this challenge in the Inter-American Dialogue's latest report on Global Trends and the Future of Latin America, *Why and How Latin America Should Think About the Future*. The Dialogue collaborated with the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) to publish the document in **Spanish**.

In the report, Bitar lays out six key global trends that are likely to have a profound impact on the Americas, and proposes ways countries can use long-term planning to address them. He notes that such planning can bring about improvements in democratic governance, increase competitiveness and productivity, encourage innovation, reduce inequality, help harness the region's energy potential, strengthen international cooperation, and promote more systematic action on climate change. As the title suggests, Bitar's work stresses both reasons for urgency (why) and strategies for action (how).

Why focus on future global trends?

Over the past decade, many Latin American governments have made significant strides in developing domestic policies that have succeeded in reducing poverty and strengthening democratic institutions. However, these projects and policies are usually national in focus and do not consider global scenarios or the experiences and strategies of other countries. Medium or long-term structural thinking about how to raise productivity, enhance quality of life, and broaden participation is limited, and too few institutions in the region are engaged in the data collection, research, or analysis needed to understand critical trends at the global level and incorporate them into policy thinking. This reduces countries' ability to react to unexpected events or develop a strategic vision that helps prioritize goals and build political agreement. With an outlook that takes into

consideration the rest of the world, Latin American governments could improve their capacity to anticipate events and, when those events occur, to respond effectively to uncertainty and rapid change.

Six global trends in particular are likely to affect the region's future:

1. **“Disruptive” technologies** in areas as diverse as health, energy, manufacturing, and services will bring substantial changes in production, employment, well-being, governability, and human relations. Exponential growth in connectivity and reduced time in getting products to market will make widespread change more rapid.
2. **Natural resource scarcity**, along with rising demand and technological innovations, will affect water, food supplies, energy, and minerals. Environmental degradation, rising energy demands and depletion of current freshwater resources will place limits on agricultural production, energy generation, and human consumption.
3. **Demographic changes, a rising middle class, and displacement of power** from traditional economic leaders to new centers of wealth will give rise to new markets and demands, place pressure on education and social services, and affect trends in migration and governability. Political instability, violence, weak institutions, and corruption might also set back growth.
4. **Urbanization and the growth of cities** will lead to greater population concentration, as well as higher demands for infrastructure and basic services, and will affect the quality of life in cities and their competitiveness. However, traffic congestion, housing shortages, segregation, and inefficient services are a major constraint.
5. **Climate change**, particularly as it affects agriculture, water availability, and natural-disaster response, will become an increasingly important priority and is already inspiring “green-growth opportunities.” Extending current consumption and production patterns for billions more people in a way that is sustainable for the planet will be a major challenge.

6. **Democratic governability** is increasingly impacted by new technologies that connect citizens, forge social relationships, heighten transparency and strengthen security, while at the same time increasing the risks from organized crime and cyber-attacks. Aware of their rights, citizens will demand more. Authoritarian governments, however, can also use technological advances to increase control and reduce freedoms. Fragile alliances that lack a coordinated means of ensuring compliance with agreements may also hinder global governance and security.

Other potential threats that could have repercussions in the region include cyber-attacks on electrical, communications, financial, logistical, and food-production grids; food insecurity stemming from higher prices; aging populations and concerns about social security; low productivity and waning competitiveness; and geopolitical tensions such as those in Asia and the Middle East.

How should the region address these challenges?

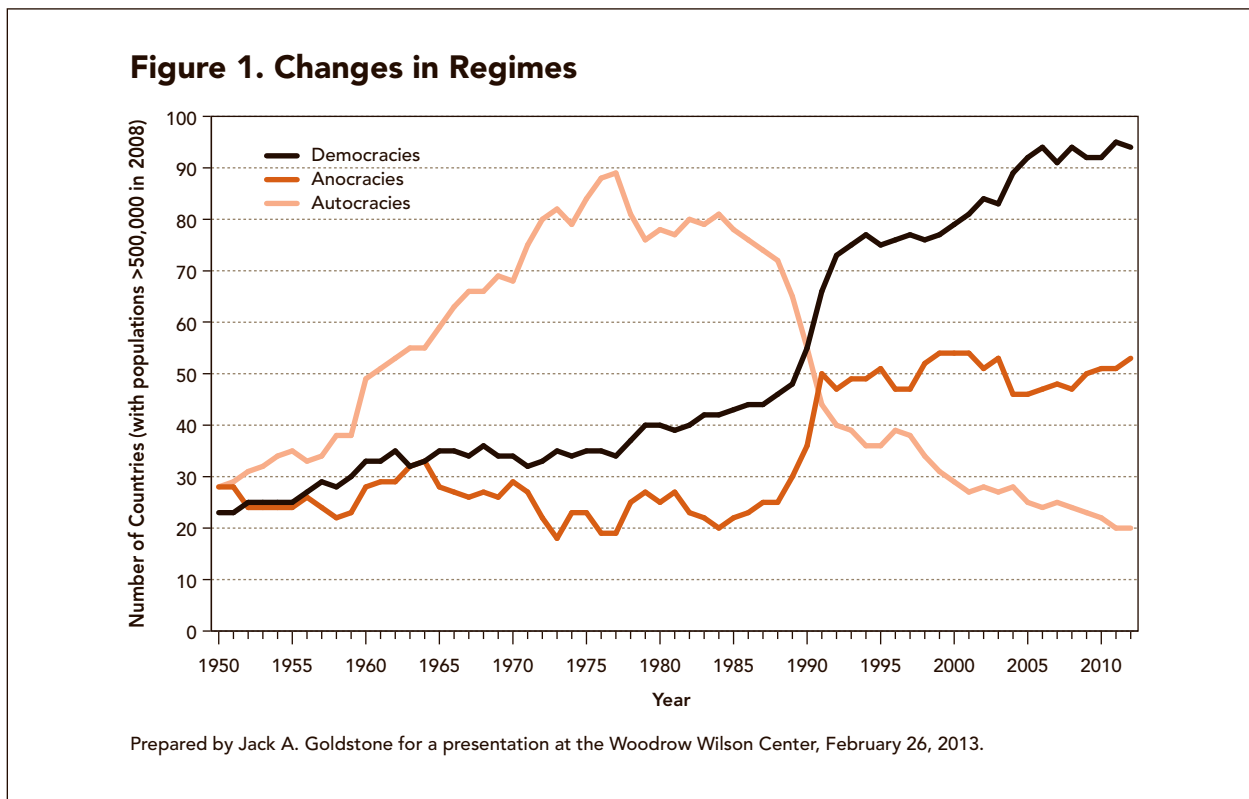
Bitar posits that three obstacles have inhibited future planning in the region: a focus on market mechanisms over strategic thinking and planning; a culture dominated by an economic focus on short-term equilibriums; and a disconnect between long-term analysis and government decision-making. Few countries have public institutions responsible for integrating sector studies, although interest in future planning in the region is growing.

Moving forward, Bitar calls on governments and civil society to focus on five strategic goals:

1. Democratic governance and citizen empowerment.

While democracy is growing worldwide (Figure 1), its quality still merits attention. Latin American countries should work to consolidate democracy by building institutions, empowering citizens and local governments, respecting minority rights, and improving security and transparency

Higher education levels, improved standards of living, and social media will spur demands for



new forms of participation, transparency, and local power in Latin America. If countries do not have institutional channels for dialogue and ways of linking social movements to political processes, the resulting disorder may lead governments to constrain freedom. Indefinite reelections, control of media, corruption, lack of transparency, and inequality also have the potential to undermine the quality of democracy. Regional agreements can help address global governance issues via financial, commercial, and environmental regulations and unified strategies for confronting organized crime.

2. Productive transformation for competitiveness.

Countries should look to combine competitiveness and specialization with sound macroeconomic management, decent jobs, worker training, high-quality education for all, technological innovation and the development of small and medium enterprises. While most countries in the region have developed sound macroeconomic management policies, many still depend too much on commodities. Countries need a more complex productive structure, particularly if they want to close the productivity gap with Asia (Figure 2). They should focus on areas where they have

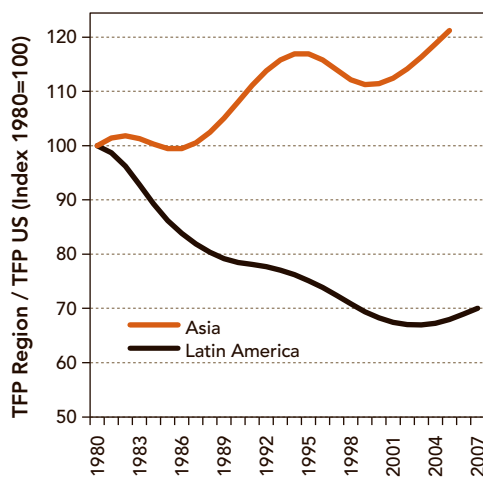
comparative advantages, but also look for new advantages in agriculture, materials, solar energy, biofuels and biotech, communications, computing, and nanotechnology.

Stronger links between researchers, business, and policy are essential. This in turn requires better quality education, greater investment in research and development, workforce training, infrastructure, and policies that support innovation. Few countries have produced long-term studies to determine the number and quality of teachers, technical specialists, curricula, values and technology needed to meet countries' changing contexts.

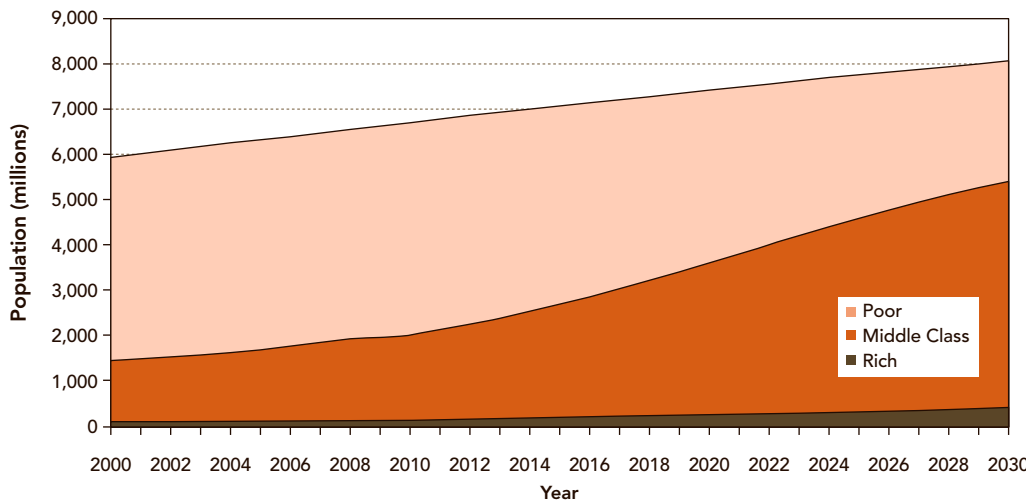
Similarly, countries will need to make the most of natural resources to increase the complexity of their productive base. For Latin America, the potential is huge if surpluses from natural resources are used to foster cost-saving technologies, reduce CO₂ emissions, devise new products, improve logistics and finance, and link natural resources with other activities. Better tax policies, improved management of public companies, and joint ventures with innovative international firms are vital to this process. Both energy suppliers and importers in the region will need to monitor rapidly changing global energy patterns. Greater social inclusion and the development of small and medium enterprises—including financing for young entrepreneurs and the ability to process and use big data in decision-making—will also be key to improving productivity.

3. **Social inclusion to reduce inequality.** Without resolute political action, the scale and speed of global change will probably heighten inequality as educated, wealthy elites use their advantages to better exploit technological change. Specific programs to address inequality, eliminate discrimination, create social welfare networks, and produce high-quality public goods and services will be needed to avoid persistent segregation and mistrust of institutions and individuals. Market regulation, efficient taxes, and support for education at all levels will also be key to promoting equitable growth. Rising demands for equal treatment from rural and indigenous populations, women, and

Figure 2. Total Factor Productivity (TFP) in Latin America and East Asia



Source: Santiago Levy and Norbert Schady, *Latin America's Next Challenge: Social Policy Reform*. IDB, 2010.

Figure 3. A Surge in the Global Middle Class

Source: Brookings Institution; A New Global Middle Class—A Crossover from West to East, http://www.brookings.edu/~media/research/files/papers/2010/3/china%20middle%20class%20kharas/03_china_middle_class_kharas.pdf.

the poor will require governments to invest more in preschool, housing, healthcare, and welfare for aging populations. Consensus-building and the political conviction to push through changes may also be stronger if the public understands the debilitating consequences of maintaining the status quo.

4. Integration and new alliances in a multipolar world. To face global forces, Latin American countries should seek greater regional cooperation and integration on issues ranging from enlarging regional markets to reaching agreements on trade, investment, tax, infrastructure, and energy cooperation, to joint action to ensure fair global norms, change international institutions, and support world governability. Regional integration can attenuate problems originating in other parts of world, help countries to better serve internal demand, and allow Latin American businesses to expand to other countries.

At the global level, demographic changes, shifting centers of economic power, the expansion of the middle class, and urbanization will all affect Latin America's position in the international arena. If Latin American countries can expand education

and training to take advantage of their relatively youthful populations, they will be able to produce and export more, both for their own growing internal markets and for new markets in Africa and Asia where population growth is predicted to be high. Stronger links with Africa, like those Brazil has begun to forge, along with market studies to guide new product development, would be particularly useful in capitalizing on new opportunities.

Countries should also think strategically about how to prepare for shifting economic power relationships. They should explore links with Asia and China in food production, energy, manufacturing, finance, and infrastructure, and continue to partner with the United States and Europe on education, energy and the environment, trade, and science and technology. Countries should also prepare for the effects of collaboration between the US and Europe in the areas of emissions, intellectual property, finance, and communications.

It will also be important to understand the demands of the growing middle class and how those can be met through new products and distribution channels (Figure 3). Most of these individuals will be located in cities, which will need to

be more efficient and competitive to attract international investment. The growth of Latin America's internal markets will make regional integration more attractive, and regional agreements can help standardize criteria, set common rules, and open the way for joint projects on a variety of topics.

5. **Action on climate change.** Although the impact of climate change will vary by country, almost all countries and Latin America as a whole should be thinking about how different scenarios will affect food security, prevention of natural disasters, and the environment. Loss of biodiversity (through pollution and deforestation), soil degradation, forest

Almost all countries in Latin America ... should be thinking about how different climate change scenarios will affect food security, prevention of natural disasters, and the environment.

fires, and glacial melt can have significant consequences for agriculture and the use and production of energy and water. Countries need to assess the costs of adaptation and mitigation programs now, including relocation of housing and infrastructure to protect poor populations, construction of dams and water pipes to conserve water supplies, and efforts to protect coasts and forests. An assessment of food security under various scenarios will help determine priorities, and will hopefully focus attention on research and activities related to green growth. At the same time, stricter regulations and changes in consumption and production processes are needed. Further progress in biotechnology, renewable energy, biofuels, and

public transportation could also spur new opportunities such as the manufacturing of food, solar panels, and electric car parts.

In all of these areas, strong and vibrant institutions and networks that produce foresight studies will be key. These types of networks and institutions are particularly important for continuity in the face of democratic electoral cycles. Since the 1990s, groups in Latin America and the Caribbean have been working to create foresight networks and studies, especially in science and technology. Governments, however, have had little involvement (except in Brazil and Colombia), and most programs have limited resources and are detached from broader decision-making.

Bitar suggests that governments and international organizations should insist that principal programs and projects be assessed under a spectrum of long-term scenarios. Permanent national teams—including government planning units, congressional foresight committees, and non-governmental study centers—should each play a strong role in ensuring that discussions of long-term forecasts are part of policy decisions and that new analysts are trained.

Similarly, national and regional networks such as the *Red Iberoamericana de Prospectiva* (RIAP) and the *Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo* can help develop common visions and positions in international organizations. Citizens and civil society also need to be aware of different scenarios and should participate in debates. In short, long-term analysis should become part of the political narrative. We must analyze the future in the present in order to improve policies that will lead us in a better direction.



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