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Introduction

Any recollection of the performance of the Latin American economies during the so-called “Lost Decade” of the 1980s should suffice to convince us how much the region has progressed over the last two decades. Recurrent financial crises, rampant inflation, stagnation and persistent impoverishment seemed to be the distinctive features of most Latin American countries back then. Thanks to harsh but indispensable stabilization and reform programs, the economic and social panorama of the region has improved enormously. Particularly during the last ten years the region has enjoyed, for the most part, financial and price stability, reasonable economic growth, a substantial reduction in poverty rates, and improvements in income distribution. Happily, in contrast to the region’s past, democracy continues to be the rule and not the exception.

By any reference to its own history, Latin America’s performance during and after the Great Crisis has been remarkable. In the past, whenever there was a major disturbance in the international economy, Latin America suffered disproportionately. In fact, during those episodes the region would sometimes not only be a victim but also a culprit of the disaster. This time was indeed different for Latin America, for the region showed not only enormous resilience during the most stressful periods of the crisis, but also because its economies rebounded rather quickly and strongly, preserving significant strength in their economic fundamentals.

As this report makes clear, however, it would be a terrible mistake for Latin American governments and societies to be complacent about the challenges in front of them. There are significant uncertainties and risks regarding the global environment in the coming years, which will entail a bigger effort to keep the Latin American economies both resilient to external shocks and capable of competing more effectively globally.

On the other hand, as the report makes clear, a closer scrutiny of some of the economic fundamentals and structural features of the Latin American countries shows that they are in much need of strengthening if the region’s per capita GDP is to converge at all in a few decades with the levels achieved by the developed countries. The gap has been closing too slowly and certainly other emerging countries, particularly in Asia, have done much better than Latin America in closing that gap. The report provides an excellent description of the challenges that will have to be overcome, but also rightly identifies the significant strengths that the Latin American economies already have.

Notably, the report provides a sound bridge between its macroeconomic assessment and the identification of sectorial investment opportunities that the region offers looking forward. There is certainly value-added here for the interested reader.

Ernesto Zedillo Ponce de León,

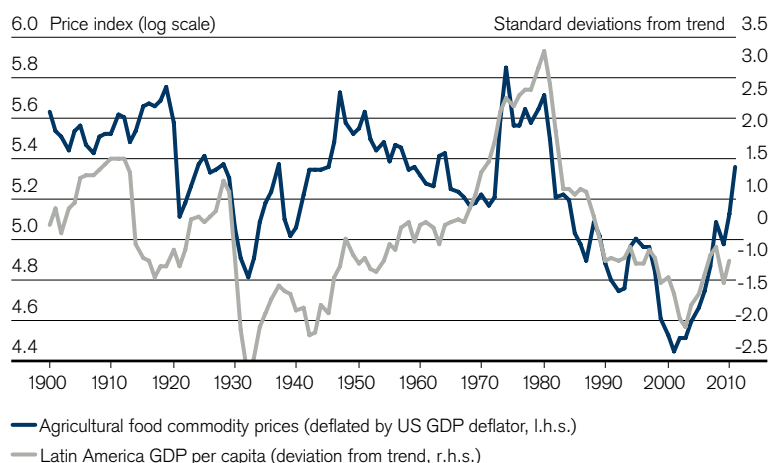
Former President of Mexico and Director, Yale Center for the Study of Globalization, Yale University

The 20-year view: Two decades of progress

Over the last two decades, Latin America has made significant progress in bridging the economic and social gap with more advanced economies. There has been significant improvement in living standards. 20 years ago, Latin American countries were approximately somewhere in the middle on the United Nations' Human Development Index, whereas today the region is closer to the top quartile of countries in terms of development.

Figure 1
Commodity prices and Latin America GDP since 1900

Source: A. Maddison, S. Pfaffenzeller, Credit Suisse



Unprecedented economic progress of recent decades

Taking a specific period to analyze markets, economies or countries is always risky. Yet, when trying to understand the recent evolution of Latin America, we feel that the last 20 years have been a crucial period as they represent the most radical change in the political, macro and social structures of Latin America in the last two centuries.

Throughout its history Latin America has been subject to economic fluctuations primarily linked to commodity prices (Figure 1). Only in the early 1990s did the region begin gradually to modernize its domestic economy, and services became an increasingly important engine for growth. Sounder macro policies, much-needed structural reforms, increased political stability, lower inflation (Figure 2), a growing



Figure 2

Inflation

Source: World Bank, DataStream, Credit Suisse

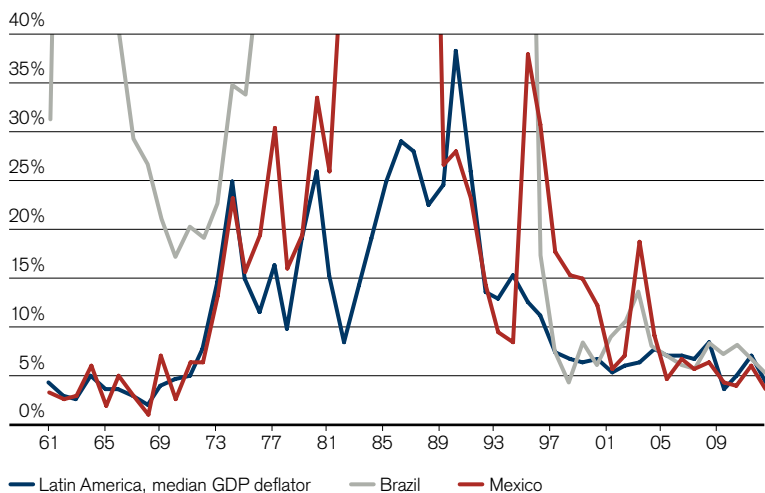


Figure 3

Current account balance as % of GDP

Source: IMF, World Bank, DataStream, Credit Suisse

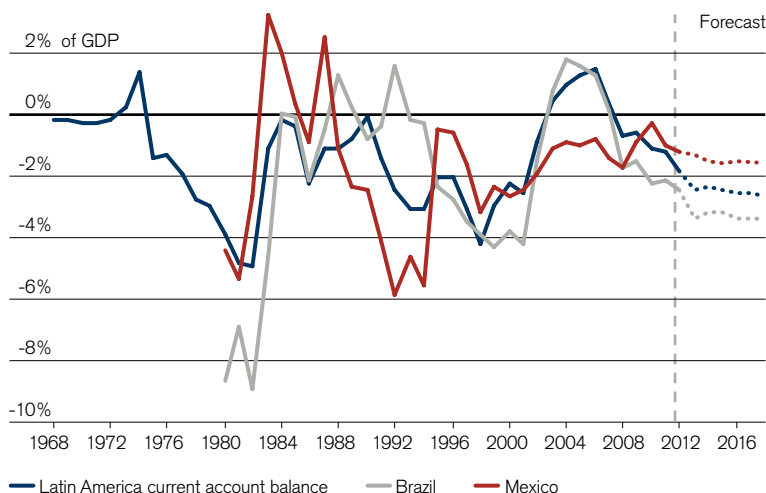
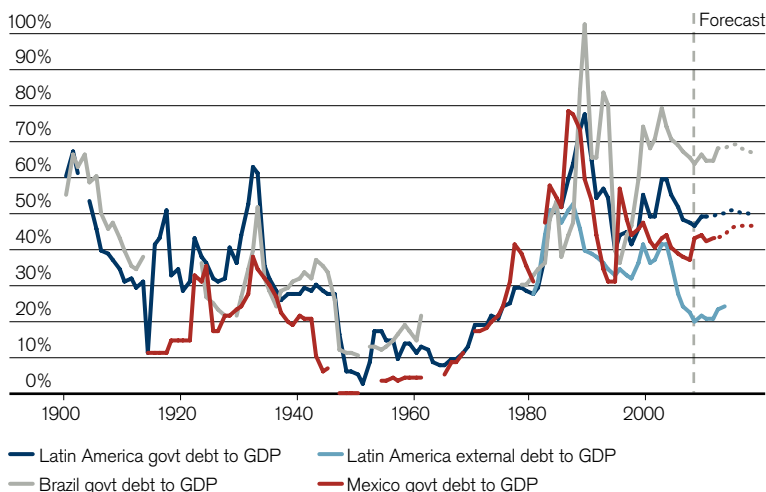


Figure 4

Latin America government gross debt to GDP (weighted by GDP)

Source: A. Maddison, IMF, Credit Suisse



middle class and higher commodity prices provided the stability and fuel that allowed for longer-term investment and a progressive increase in consumer spending.

These factors allow us to draw a demarcation between Latin America 20 years ago and where we are now. As a decade-long commodity price boom has come to an end, a repeat of a 1980s-style crisis in the region is perhaps one of the lingering fears in the back of investors' minds. Some indicators already point to rising vulnerability.

The current account balance – one indicator of competitiveness – has turned to a deficit of more than 2% in 2013, and the outlook is not particularly favorable (Figure 3). Brazil's current account deficit is at its highest level since 2001 and the IMF expects it to remain above 3% in the foreseeable future. Credit to the private sector has risen from 26% of GDP in 2002 to close to 50% of GDP in 2013. Healthier global growth should help allay some of these fears, but even in a slower growth pattern we are quite optimistic about the outlook for Latin America. Why?

A number of indicators of financial vulnerability show that the region as a whole is in a much better



position to absorb a serious shock. The aggregate gross debt-to-GDP ratio is stable (Figure 4), while the external debt-to-GDP ratio is 24.5%, just 4% above its 30-year low – a level which is in line with the average level of emerging markets (24.7%). External debt-to-exports is approximately 100%, just half its level in 1980, and not far from other emerging markets (Figure 5).

According to World Bank data, total reserves excluding gold stood at near 60% of external debt at the end of 2012, not far from the 40-year high of 62% recorded in 2011. The regional bank capital-to-assets ratio was 10.3% in 2012 – well above the OECD average of 7.4%.

The export sector is admittedly still dependent on commodities, especially in countries such as Venezuela, Peru and Chile, but on aggregate it is more diversified. The role of manufacturing has increased substantially, and it now accounts for a greater share of exports than commodities (Figure 6).

The direction of trade is also more diversified than it was in the 1980s, with emerging Asia having increased its share recently, while intra-regional trade is also high by historical comparison (Figure 7). Nevertheless, the current level of intra-regional

Figure 5

Latin America external debt to exports

Source: IMF, Credit Suisse

500% of exports of goods & services

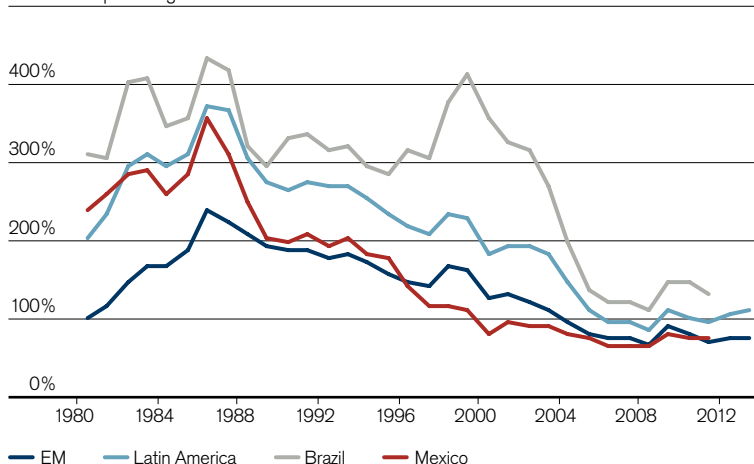


Figure 6

Latin America exports by type as % of GDP

Source: World Bank, DataStream, Credit Suisse

30% of GDP

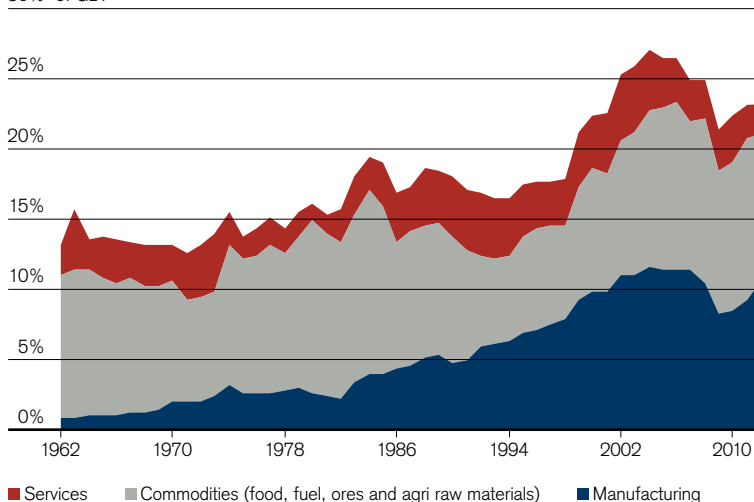


Figure 7

Latin America exports by end market

Source: World Bank, DataStream, Credit Suisse

20% of exports

% of exports 90%

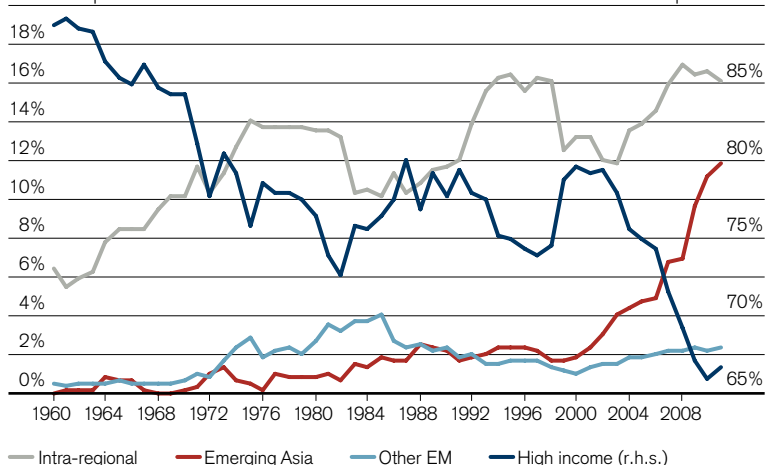


Figure 8

Intra-regional trade by region

Source: DataStream, Credit Suisse

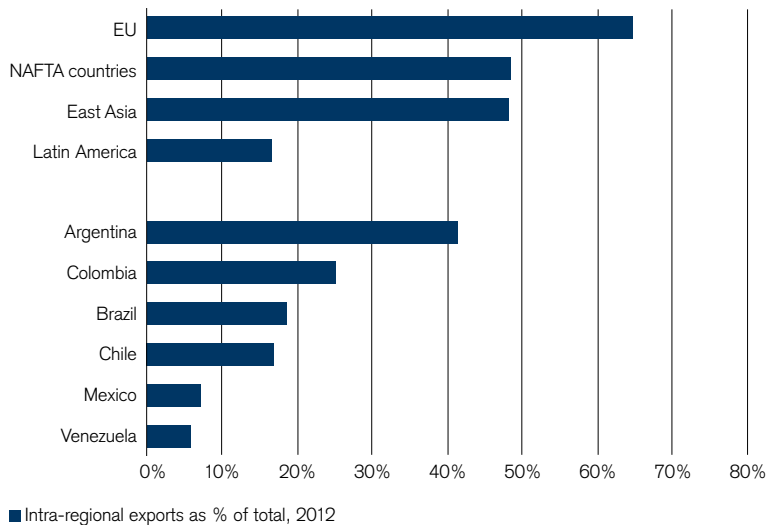


Figure 9

Political regimes in Latin America

Source: Polity IV Project, Credit Suisse

20 Number of countries

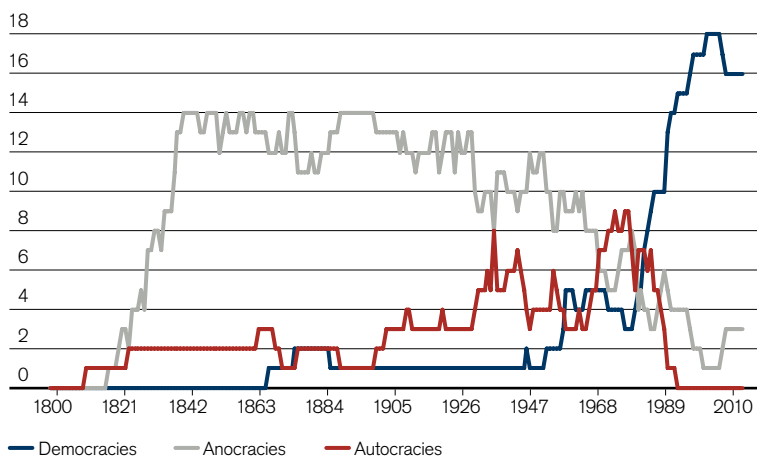
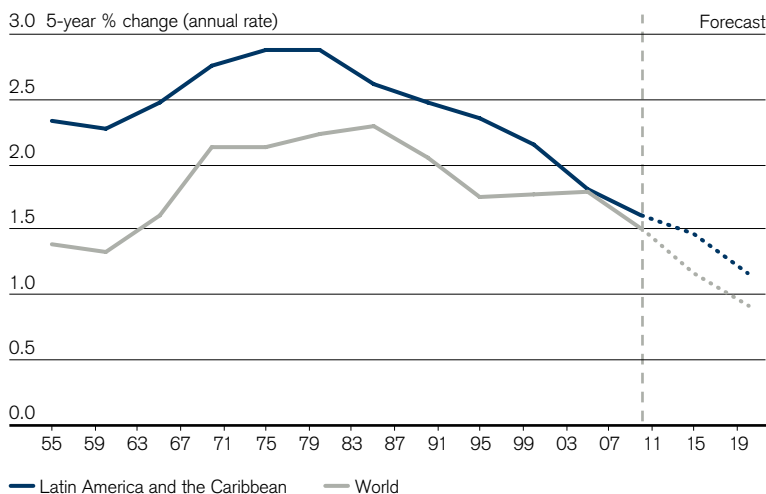


Figure 10

Working age population growth

Source: United Nations, Credit Suisse



trade is still low relative to other integrated trading blocks (see Figure 8) and less than one third the level of the EU.

Importantly, inflation is under control, while private debt is relatively low when compared to that of more developed countries.

Finally, over the last three decades, several countries in the region have made strides in improving their institutional framework by transitioning to more democratic and inclusive institutions. According to Polity, over the last two decades there have been no autocratic regimes in Latin America. While 16 of the 19 countries tracked by the think tank are democracies, only three countries are not fully democratic (Figure 9). Among emerging market groups, Latin America has the highest share of democracies, a strong indication that the region has already made an important transition.

Looking ahead: Bright prospects, but more investment needed

Latin America will continue to benefit from favorable demographics compared to much of the world (Table 1). The growth rate of the adult population is slowing, but it will be higher than the global rate expected for 2020 (Figure 10) and life expectancy is now nearly 75, against 76 in Europe, 79 in the US and 70 globally.

The region's education standards are improving. Mean years of schooling for adults in the region is now 7.8 years, against 7.4 years globally. Expected years of schooling for children is 13.8 years in Latin America and 11.5 globally



Table 1

Latin America demographic indicators

Source: UN, Credit Suisse Demographics Research

Population (m)									
	Argentina	Brazil	Chile	Colombia	Mexico	Venezuela	World	More developed regions	Less developed regions
1995	34.86	161.85	14.41	36.45	92.27	22.03	5,741.82	1,173.48	4,568.34
2010	40.41	194.95	17.11	46.29	113.42	28.98	6,916.18	1,240.93	5,675.25

Population growth rate									
	Argentina	Brazil	Chile	Colombia	Mexico	Venezuela	World	More developed regions	Less developed regions
1995–2000	1.16%	1.50%	1.36%	1.74%	1.60%	2.00%	1.30%	0.34%	1.54%
2010–2015	0.85%	0.84%	0.86%	1.28%	1.14%	1.49%	1.15%	0.30%	1.33%

Total fertility rate (children per woman)									
	Argentina	Brazil	Chile	Colombia	Mexico	Venezuela	World	More developed regions	Less developed regions
1995–2000	2.63	2.45	2.21	2.75	2.67	2.94	2.73	1.56	2.99
2010–2015	2.17	1.80	1.83	2.29	2.23	2.39	2.50	1.68	2.63

Life expectancy at birth (years)									
	Argentina	Brazil	Chile	Colombia	Mexico	Venezuela	World	More developed regions	Less developed regions
1995–2000	73.2	69.3	75.9	70.3	73.7	72.1	65.6	74.7	63.7
2010–2015	76.1	74.0	79.3	74.0	77.2	74.7	70.0	77.7	68.3

Old-age dependency ratio (ratio of population aged 65+ per 100 population 15–64)									
	Argentina	Brazil	Chile	Colombia	Mexico	Venezuela	World	More developed regions	Less developed regions
1995	15.40	8.02	10.41	7.39	8.05	6.90	10.65	20.35	7.89
2010	16.40	10.37	13.49	8.56	9.84	8.63	11.68	23.81	8.93



(Figure 11). As a result, the prospects for human capital are fairly positive, especially given the region's relatively young population and low unemployment rate. It is still well below the investment that countries like Korea or Taiwan made in education, but the trend is positive. Brazil and Mexico are the countries where more investment is needed in this area.

Despite the significant progress made over the last 20 years in many key areas, several challenges remain. Latin America has grown at an annual pace of 3.1% since 1990, but productivity growth has disappointed. When measured against other regions in the two decades after 1990, the Conference Board finds that average total factor productivity in Latin America has been almost stagnant, compared to very high growth in emerging Asia. This is also reflected in the region's poor scores in technological innovation. The ratio of patents filed per million inhabitants was 7.1 in 2010, against 155 in emerging East Asia and 638 in the OECD. Research and development expenditure was only 0.8% of GDP in 2009, against 1.5% in emerging Asia and 2.5% in the OECD.

There is some evidence that the region is moving into higher value added sectors. It is indicative that the dollar value of high technology exports has increased at a rate of 12% p.a. since 1994, although it is still at low levels (10% of manufacturing exports against 27% in Emerging East Asia and 16.8% in the OECD).

Savings and investment ratios are below other emerging markets (Figure 12), translating into lower growth of the capital stock. The relatively high share of consumption and low share of investment to GDP is in strong contrast to higher growth Asian economies (Figure 13). Investment-to-GDP ratios close to 30% rather than the current 20% would be needed to ensure above-average long term growth. This explains in part why total factor productivity growth has been so low (wage increases are the other reason), and suggests that if investment and innovation continue to be low, there is little scope for the region to close the gap and grow at a faster pace. Government policy should therefore directly target these areas.

The legal frameworks need to improve too. Currently, the region is approximately in the middle of the World Bank's "ease of doing business" scorecard. There is evidence that significant progress has been made over the last decade. For example the time required to start a business has fallen to 35 days in 2013, from nearly 74 days in 2003. As a comparison, the equivalent figure is 11 days in the OECD and 40 days in emerging Asia. There is a lot of scope in areas such as justice, where the time required to enforce a contract has risen from 710 days in 2003 to 726 days in 2013, against 517 days in the OECD. In order to close the productivity gap with advanced economies, this is another area on which the public sector needs to focus.

Figure 11

Years of schooling

Source: World Bank, Credit Suisse

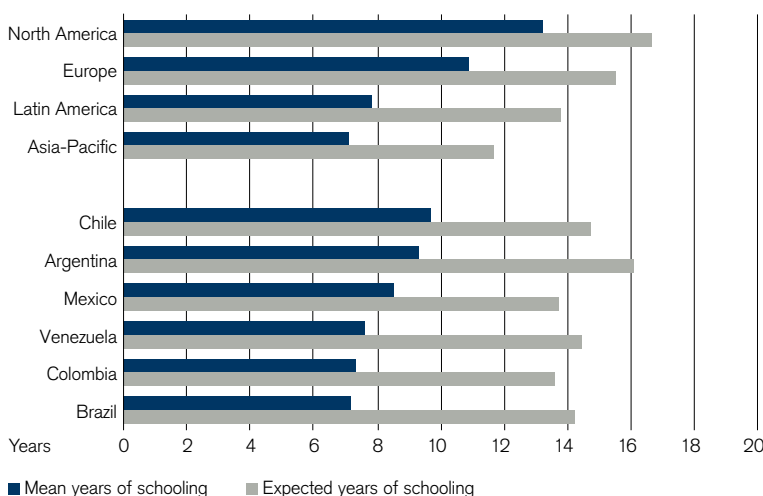
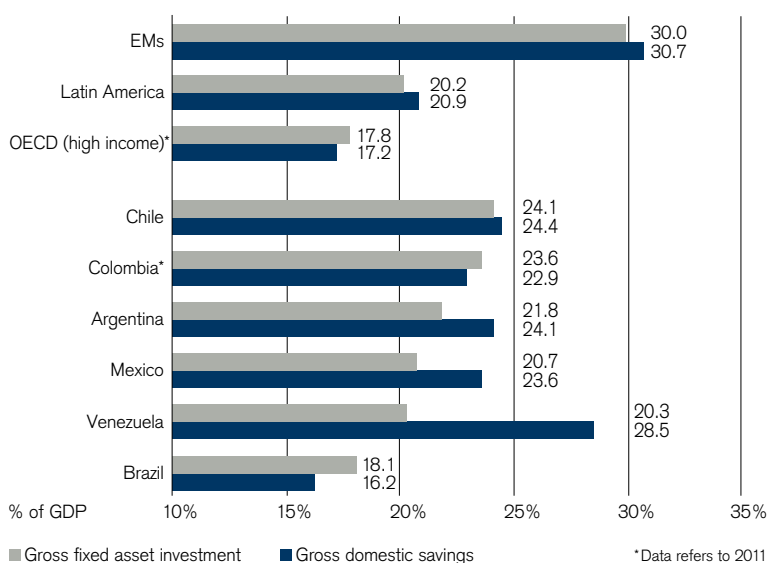


Figure 12

Savings and investment rates by region (2012)

Source: World Bank, DataStream, Credit Suisse

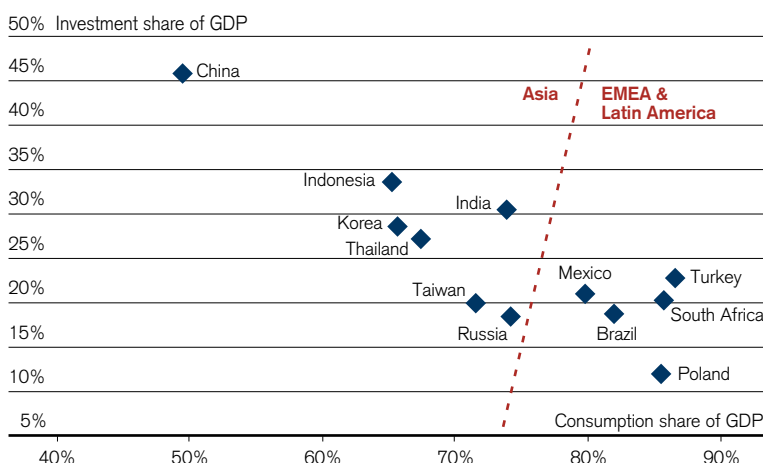


*Data refers to 2011

Figure 13

Consumption* versus investment share of GDP (2013, %)

*Private and government sector combined; Source: IMF, Credit Suisse



The next decade: Leaders and laggards

Analyzing structural changes in Latin America and how each country stands relative to the developed world, reveals each country's potential growth and allows us to identify the sectors that are likely to offer the greatest opportunities. Key areas for our analysis of the long term outlook for the region are demographics, infrastructure, intangible infrastructure and macro conditions (particularly public finances).





Figure 1

Fertility rate by country

Source: UN, Credit Suisse

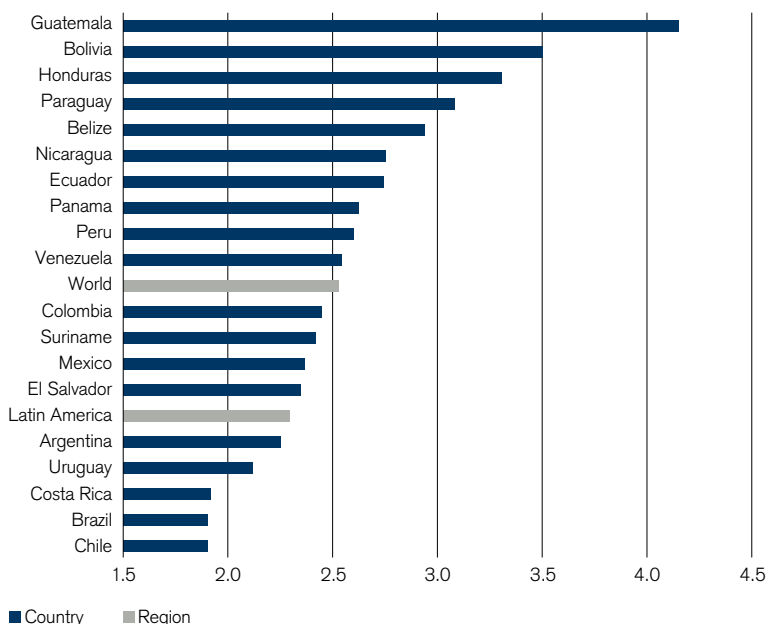
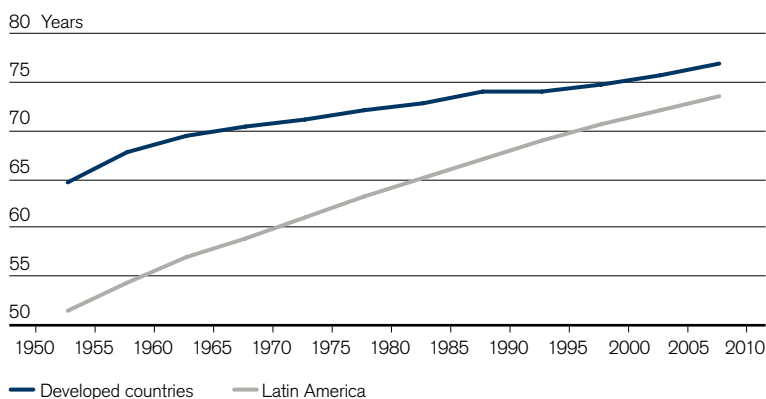


Figure 2

Life expectancy at birth

Source: UN, Credit Suisse



Demographics

Latin American economies generally have favorable demographics relative to global standards. The fertility rate has been on a declining trend over the last few decades, and has now fallen below the world average, but still stands well above the rate of developed economies and the replacement rate of 2.1. There are large variations within the region. Brazil, the most populous country, and wealthy countries such as Chile, Uruguay and Argentina, have fertility rates below the replacement rate (Figure 1). Mexico on the other hand has a fertility rate above the regional weighted average, but still trails the global fertility rate. The remaining smaller economies in the region have generally higher fertility rates.

Despite declining fertility rates, several economies enjoy relatively low dependency rates (i.e. population outside the working age relative to total population). In addition, life expectancy has improved substantially over the years, from approximately 51 years in 1950 to 73 years in 2010 (Figure 2). The vast majority of countries have life expectancy rates above the world average, while Chile and Costa Rica exceed the developed market average of 76.9 years. Countries with high fertility rates are expected to show stronger growth in basic staples consumption. In contrast, countries with low fertility rates and higher dependency rates will see healthcare expenditure grow at a faster relative rate.

Our global demographics scorecard combines three key demographics variables: fertility rates, life expectancy at birth and old-age dependency (Table 1). Demographic conditions in Latin America are in line with other emerging economies but much better than high-income economies. It is worth mentioning that demographic indicators in Brazil have dropped over the last few years, so the country has one of the lowest scores in the region.

Employment

Favorable demographics can be a strong contributor to future economic growth, but an expanding labor force can create social instability if the labor market is not able to absorb the new workers. One of the reasons often mentioned for the uprisings in the Arab world was the high rate of youth unemployment. Data from the International Labor Organization indicates that most economies in the region had a youth unemployment rate that was well below the global rate in 2010 (Figure 3). Among the economies with the highest incidence of youth unemployment are Colombia and Argentina. Brazil and Chile, two countries that have seen protests recently, have youth unemployment rates that are below the world average.

We have constructed an employment outlook scorecard (Table 2) that depends on two components: the “misery index” and economic vulnerabil-

ity. The misery index was devised by the economist Arthur Okun and exists in several permutations. While the economic cycle has a strong influence on score, there are also structural issues behind each component of the index.

We find that there are big disparities within Latin America. Venezuela and Argentina score in the bottom 30% of the countries on our misery index scorecard, as they suffer from low growth, high inflation and high unemployment. Panama, Chile, Peru and El Salvador are among the top 30% of economies globally on this score, enjoying a good combination of high rates of GDP growth, and relatively low unemployment and inflation. Among large economies, Brazil has a fairly low score, while Mexico scores well above the global average.

Infrastructure

The level and quality of a country's infrastructure is a key to enabling economic activity and meeting basic needs, from sanitation to access to electricity and transportation. Infrastructure requirements have evolved over time, and are now extending to information technology and internet access which are essential for enabling growth in the new world economy. Our infrastructure scorecard employs nine variables grouped into two categories: utilities and transportation (Table 3). The utilities index includes variables such as number of internet users, electric power consumption and also access to water and sanitation. The transportation index includes variables such as air transportation, road density, port infrastructure and the World Bank's logistics performance index. The overall infrastructure of the region is in line with the global average, and much better than middle and low-income countries, although it trails the score of high income economies. Among the largest countries, Mexico needs to invest more in utilities and services and Brazil in transportation logistics. However, when measured against GDP per capita, the quality of infrastructure is relatively low, and there is a lot of room for improvement.

Interestingly, electricity consumption per capita is one area where every country in the region is in relative deficit. Access to telecommunications is relatively good in the region, with most countries above or near the levels warranted by income. In transportation infrastructure the divergence is even greater, with some large economies, including Brazil, Colombia, Venezuela and Peru showing a large gap versus developed economies (Figure 4). Port infrastructure is very poor in many countries, while the road networks and airport scores are more consistent. This is key to assessing the potential for future growth in manufacturing and commodity exports.

Intangible infrastructure

We define intangible infrastructure as the set of factors that develop human capability and permit the easy and efficient growth of business activity.

Table 1

Demographics scorecard

Source: World Bank, DataStream, Credit Suisse

Country	Fertility rate, total	Life expectancy at birth	Age dependency ratio (old population)	Demographics *
Honduras	65.2%	51.7%	58.4%	73.1%
Guatemala	73.9%	48.4%	51.1%	71.8%
Nicaragua	55.8%	59.1%	55.8%	67.7%
Panama	53.7%	78.6%	38.3%	67.1%
Ecuador	57.1%	71.2%	41.0%	65.1%
Mexico	45.0%	77.9%	43.7%	63.0%
Paraguay	63.1%	49.7%	48.4%	59.0%
Venezuela	49.7%	61.8%	46.4%	57.0%
Peru	51.7%	60.5%	43.0%	55.7%
Bolivia	69.2%	33.6%	51.7%	54.3%
Latin America	49.6%	62.4%	42.4%	52.9%
Low and middle-income economies	56.4%	40.3%	56.5%	52.9%
Costa Rica	28.2%	82.6%	41.7%	52.3%
Colombia	46.4%	55.1%	47.0%	48.9%
Chile	30.9%	81.9%	31.6%	42.9%
Argentina	43.0%	70.5%	28.2%	40.9%
High-income economies	24.8%	89.1%	24.4%	37.8%
Uruguay	39.6%	75.9%	16.8%	30.8%
El Salvador	43.7%	49.0%	37.6%	28.1%
Brazil	27.6%	53.1%	39.6%	22.1%

* This column is a composite score of the sub-indicators.

Figure 3

Youth unemployment, 2010 / 2009

Source: ILO, Credit Suisse

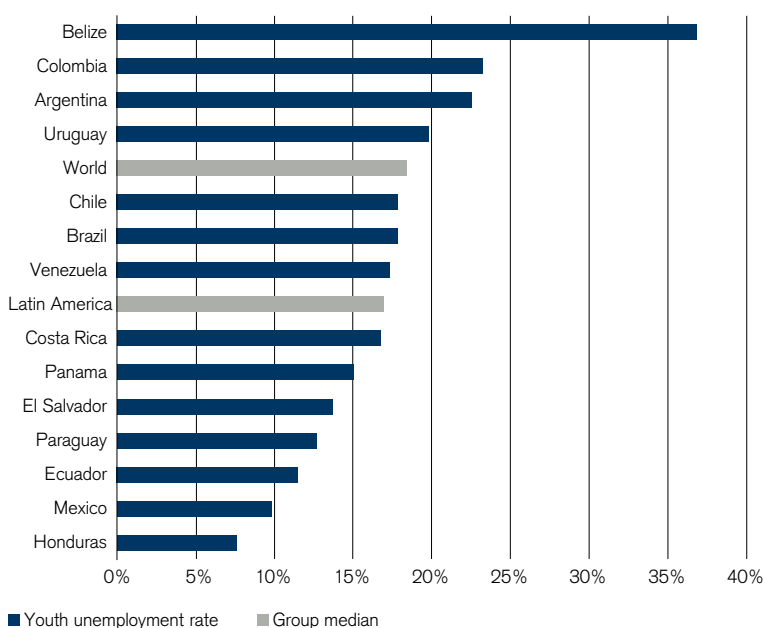


Table 2

Employment outlook scorecard

Source: IMF, World Bank, DataStream, Credit Suisse

Latin America	Misery index	Economic vulnerability	Employment outlook *
Peru	76.0%	80.6%	86.6%
Chile	79.3%	76.6%	86.0%
Bolivia	64.0%	86.0%	83.3%
Panama	87.3%	49.3%	74.6%
Ecuador	67.3%	59.3%	70.0%
Mexico	65.3%	51.3%	63.3%
High-income economies	57.3%	61.0%	61.7%
Paraguay	38.6%	74.6%	60.0%
Colombia	47.3%	61.3%	54.0%
Latin America	54.7%	47.9%	51.6%
Guatemala	46.6%	56.0%	51.3%
Low and middle-income economies	48.0%	47.1%	46.8%
El Salvador	74.0%	22.6%	45.3%
Honduras	63.3%	25.3%	41.3%
Uruguay	40.6%	45.3%	40.6%
Costa Rica	51.3%	30.6%	35.3%
Nicaragua	52.6%	24.6%	32.6%
Brazil	36.6%	40.0%	32.0%
Venezuela	24.6%	13.3%	12.0%
Argentina	14.6%	18.0%	8.6%

* This column is a composite score of the sub-indicators.

Table 3

Infrastructure scorecard

Source: World Bank, DataStream, Credit Suisse

Country	Utilities	Transportation	Infrastructure *
High-income economies	90.0%	88.1%	89.6%
Uruguay	74.4%	74.3%	75.8%
Chile	71.1%	68.2%	72.4%
Panama	52.3%	81.7%	69.1%
Argentina	70.4%	58.7%	65.7%
Mexico	53.6%	65.5%	61.7%
Costa Rica	59.7%	52.0%	58.3%
Brazil	59.0%	50.6%	57.7%
Ecuador	47.6%	56.0%	52.3%
Latin America	51.3%	49.0%	50.9%
El Salvador	42.9%	58.1%	50.3%
Colombia	48.9%	45.9%	45.6%
Peru	43.6%	45.2%	44.2%
Venezuela	63.0%	24.3%	42.2%
Low and middle-income economies	39.9%	40.3%	40.0%
Honduras	38.9%	41.8%	39.5%
Guatemala	41.6%	33.7%	37.5%
Paraguay	38.2%	29.0%	34.8%
Bolivia	35.5%	27.0%	33.5%
Nicaragua	32.2%	20.9%	25.5%

* This column is a composite score of the sub-indicators.

It encompasses factors such as education, innovation, healthcare and finance. Intangible infrastructure is important in determining the potential growth of the service sector. Intangible infrastructure is by definition difficult to measure. We group variables into four broad categories: financial sophistication, institutional quality, human capital and innovation. These are then aggregated to form a composite intangible infrastructure score (Table 4). The region scores slightly better than the global average in intangible infrastructure. Panama and Chile are leaders in the region, scoring in the top 20% globally, Mexico is close behind them, and in fact scores better than several other large economies such as Poland, Brazil, Russia and Argentina. All three economies have scores well above the levels warranted by their GDP per capita levels (Figure 5).

The region scores well on human capital factors, which include educational attainment and population health. Chile, Argentina, and Uruguay are in the top 30% of countries globally, with several others such as Panama, Mexico and Costa Rica close behind them. Venezuela has shown by far the biggest relative improvement in recent years, primarily as a result of a large increase in the expected years of schooling of children.

Latin America has a relatively low score on innovation indicators, although there has been some improvement lately. Our innovation score includes three variables, namely patents filed per head, high-technology (R&D intensive) exports as a share of manufactured exports, and researchers in R&D. While the level of high-technology exports exceeds the global average, the level of patent applications and R&D researchers is very low. Even countries with a very high content of high technology exports in manufacturing (such as Costa Rica and Mexico) have relatively low research intensity, which implies that high value-added activities are mostly done abroad. The two other components of intangible infrastructure (financial sophistication and institutional quality) are approximately at the levels of the global average. We approximate financial sophistication by computing a composite score of commercial bank branches, the market value of listed companies and financial services exports relative to GDP. There is a very strong score in the prevalence of commercial bank branches per inhabitant, but with the exception of a few countries, the capitalization and export scores are low.

Composite scorecard: What will the future bring?

The scorecard also helps us identify areas where a country needs to invest to achieve its higher growth potential. The clear leaders in the region are Panama and Chile, scoring among the top 20% of countries in our scorecard, and better than the global high-income economy average. Mexico, Peru and Ecuador fall within the top 30% of countries, and they are followed by Peru, Brazil and Argentina.



Figure 4

Transportation infrastructure score and GDP per capita

Source: World Bank, DataStream, Credit Suisse

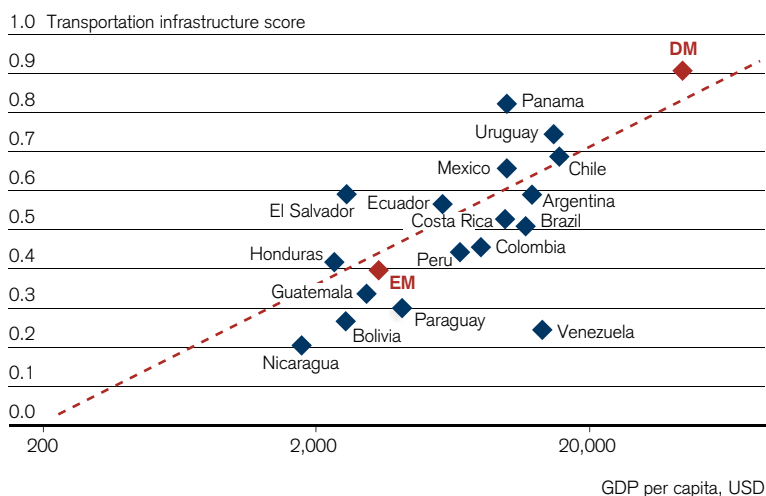
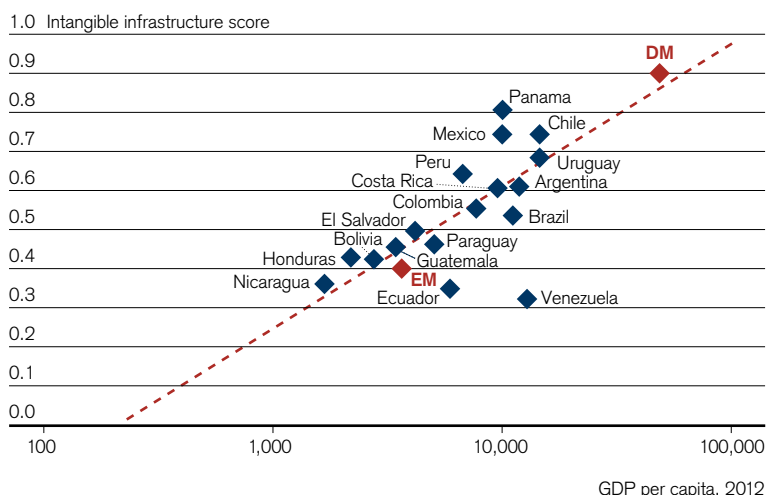


Figure 5

Intangible infrastructure and GDP per capita

Source: World Bank, DataStream, Credit Suisse



Venezuela, despite its natural resource wealth and high GDP per capita, is a laggard in many respects and falls within the lowest decile of countries.

While GDP growth is determined by several factors, we have tested whether our scorecards contain predictive power. We have reconstructed our global scorecards for the year 2006 (albeit with less data due to poorer availability) and estimated the relationship of the 2006 score with real GDP per capita growth until 2012, controlling for the relative level of GDP per capita. We find that there is a strong positive relationship between the composite score and subsequent real GDP per capita growth.

Assuming this relationship will continue to hold, we have used the 2012 composite score and the current relative GDP-per-capita levels to estimate the future growth rate relative to the global average. Some of the smaller economies, such as Bolivia, Panama and Ecuador may well surprise significantly to the upside. At the other end, we find Venezuela a country that might see growth in the next few years significantly undershoot.

While Argentina has potential as a result of good intangible and tangible infrastructure, its aggregate score is particularly low as a result of the dire economic conditions that currently prevail. The situation has deteriorated further in recent times, with international reserves falling further in 2013.

Brazil also has a relatively low aggregate score but for different reasons. The country suffers from worsening demographic conditions which limit its growth prospects. In addition, it has an infrastructure deficit that needs to be bridged to ensure strong productivity growth. There has already been strong improvement in the employment outlook score in recent years, and this will likely continue in the coming years, as the economy expands. Nevertheless, the employment score is still low relative to the country's potential. Policy makers need to do more to support productivity growth and competitiveness.

Among other economies, Mexico, Chile and Peru could exceed the global average growth level. Mexico in particular receives consistently high scores across all factors and as a result it is well positioned to see a pick up in growth in the coming years. This will likely be supported by the implementation of the structural reforms recently approved, as well as higher growth in the USA.

Chile and Peru are among the most successful economies in the region, enjoying a strong growth potential. Peru scores relatively poorly in infrastructure but is still among the top 20% of economies globally. This is underpinned by a very favorable employment outlook – an area where the economy enjoys the highest score in the region. Demographics in Chile are relatively unfavorable compared to other economies in the region, primarily due to an aging population and a low fertility rate. Yet, the economy scores better than several high-income economies, and could enjoy high growth rates for more years to come.

Table 4

Intangible infrastructure scorecard

Source: World Bank, DataStream, Credit Suisse

Country	Financial sophistication	Institutional quality	Human capital	Innovation	Intangible infrastructure *
High-income economies	83.2%	84.1%	86.9%	80.9%	87.2%
Panama	85.0%	82.4%	69.1%	62.0%	81.2%
Chile	88.4%	79.0%	79.8%	50.3%	80.5%
Mexico	61.9%	83.1%	67.7%	65.6%	77.1%
Peru	80.2%	65.5%	58.3%	45.9%	68.4%
Uruguay	41.4%	72.2%	76.5%	52.5%	65.7%
Brazil	79.5%	37.8%	54.3%	66.4%	63.0%
Argentina	15.6%	50.0%	78.5%	67.8%	55.7%
Costa Rica	33.3%	43.2%	69.7%	64.9%	53.6%
Colombia	51.7%	67.5%	53.0%	37.9%	53.0%
Latin America	49.7%	48.4%	57.3%	45.5%	51.7%
El Salvador	63.2%	52.0%	40.9%	35.0%	46.3%
Honduras	59.8%	56.0%	37.5%	16.0%	41.6%
Low and middle-income economies	41.5%	41.2%	40.7%	41.7%	40.6%
Bolivia	48.2%	19.5%	49.6%	49.6%	40.2%
Guatemala	66.6%	41.8%	32.8%	21.1%	38.9%
Nicaragua	22.4%	29.0%	36.2%	46.7%	32.8%
Paraguay	25.1%	20.2%	44.2%	39.4%	31.5%
Ecuador	6.1%	22.2%	63.0%	25.5%	27.5%
Venezuela	17.0%	1.3%	62.4%	27.7%	21.4%

* This column is a composite score of the sub-indicators.

Table 5

Composite scorecard

Source: World Bank, DataStream, Credit Suisse

Country	Demographics	Infrastructure	Intangible infrastructure	Employment outlook	Aggregate score *
Panama	67.1%	69.1%	81.2%	74.6%	88.6%
Chile	42.9%	72.4%	80.5%	86.0%	87.3%
High-income economies	37.8%	89.6%	87.2%	61.7%	82.9%
Mexico	63.0%	61.7%	77.1%	63.3%	82.6%
Peru	55.7%	44.2%	68.4%	86.6%	81.3%
Ecuador	65.1%	52.3%	27.5%	70.0%	70.0%
Uruguay	30.8%	75.8%	65.7%	40.6%	68.6%
Bolivia	54.3%	33.5%	40.2%	83.3%	68.0%
Colombia	48.9%	45.6%	53.0%	54.0%	62.0%
Guatemala	71.8%	37.5%	38.9%	51.3%	58.6%
Costa Rica	52.3%	58.3%	53.6%	35.3%	58.0%
Latin America	52.9%	50.9%	51.7%	51.6%	56.4%
Honduras	73.1%	39.5%	41.6%	41.3%	56.0%
Paraguay	59.0%	34.8%	31.5%	60.0%	46.0%
Low and middle-income economies	52.9%	40.0%	40.6%	46.8%	41.4%
Brazil	22.1%	57.7%	63.0%	32.0%	35.3%
Argentina	40.9%	65.7%	55.7%	8.6%	32.0%
El Salvador	28.1%	50.3%	46.3%	45.3%	31.3%
Nicaragua	67.7%	25.5%	32.8%	32.6%	24.6%
Venezuela	57.0%	42.2%	21.4%	12.0%	9.3%

* This column is a composite score of the sub-indicators.

The rise of the middle-income class

The middle class in Latin America grew by 50% between 2003 and 2009, from 103 to 152 million people, or 30% of the population. This has profound consequences for the economy as well as the investment environment.





Figure 1

Middle-income class in Latin America is expected to become the majority of the population in the next few decades

Source: Bussolo and Murad 2011, World Bank

50% Percentage of population

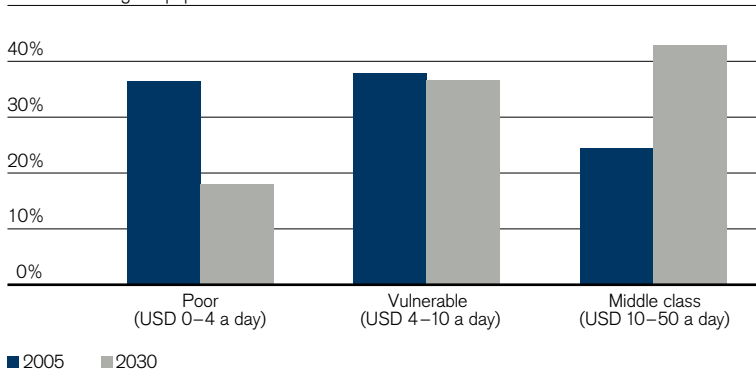


Figure 2

Latin America will be the second-largest contributor globally to growth in the middle-income class

Inhabitants (in millions) in the middle-income group; Source: Bussolo and Murad 2011, World Bank

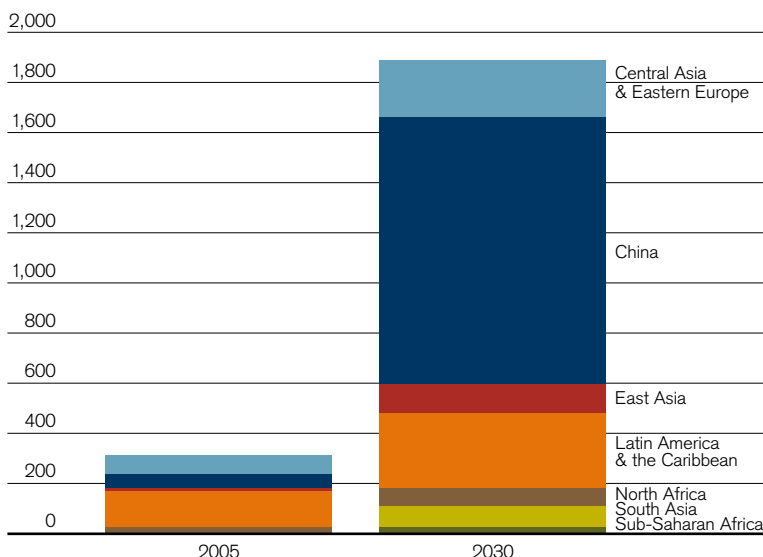
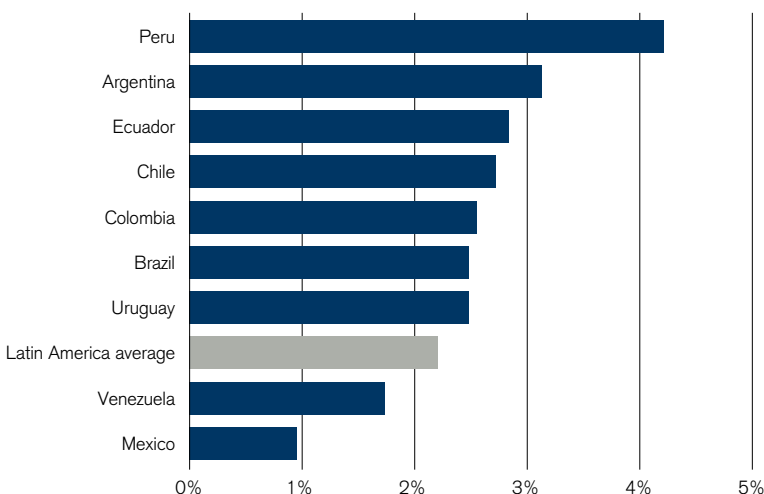


Figure 3

Average annual per capita GDP growth, 2000–2010

GDP growth adjusted for purchasing power parity; Source: World Bank, Credit Suisse estimates



In the last decade the growth in the middle class in the region has been a key engine of economic growth. Yet, there has been significant variance in the performance of the different countries. Brazil has had a remarkable performance with the middle income class growing from 39% of total population to 50% of total over the last decade (Figure 5). Meanwhile, countries such as Mexico continue to have surprisingly low social mobility and depressed consumer credit penetration (Figure 6). We believe both of these conditions might be set for structural improvement during the coming years, as a result of the landmark reform agenda put in place by the new administration in Mexico.

According to the study “Economic Mobility and the Rise of the Latin American Middle Class” by the International Bank for Reconstruction and Development / The World Bank, which was published in 2013, the middle income class will represent 42% of the Latin American population by 2030 versus 29% in 2009. The middle income class is defined as the group of people who earn from USD 10 to USD 50 per day, adjusted for purchasing power parity.

Brazil's booming middle-income class

The growth of Brazil's expanding middle class is especially noteworthy because of the country's relevance for the region and possible lessons for other countries. Brazil has promoted policies which have stimulated a migration of individuals from the D and E income classes to the A, B, and C classes. For example, the number of individuals belonging



to the D and E classes decreased from 92.7 million in 2002 to 73.4 million in 2009, while the number of people in the A, B, and C classes rose from 82 million to 115 million in the same period. This reduction in income inequality was reflected in the path of the Gini coefficient, which fell from 0.58 in 2004 to 0.55 in 2009.

This trend is likely to continue in the next few years, albeit at a slower pace (Figure 7). The two most important policies that contributed to the reduction in income inequality were:

- **Increases in the minimum wage:** These were significant from 2004 to 2010, with a real gain of 6.1% per year on average in the period. These higher real gains in the period resulted from the implementation of a formula which began to link the increase in the minimum wage for a given year to the GDP growth two years before plus inflation for the year before the increase. Since the minimum wage is an important index for adjustment of social benefits (e.g. social security benefits and social programs) and of wages of lower-paid workers (e.g. domestic workers), this significant real increase was decisive in causing the wages of lower-income workers to grow faster than the salaries of higher-paid workers.

- **Poverty eradication programs:** Among the income transfer programs of the federal government, the “Bolsa Familia” (family welfare stipend) was the one that contributed the most to the eradication of extreme poverty in the country. Launched in October 2003, the program currently benefits approximately 14 million families with per capita income of less than BRL 70 per month. The pro-

Figure 4

Middle class as a percentage of population

Source: Data from PovcalNet, SEDLAC, World Bank

60% Middle class, percentage of the population

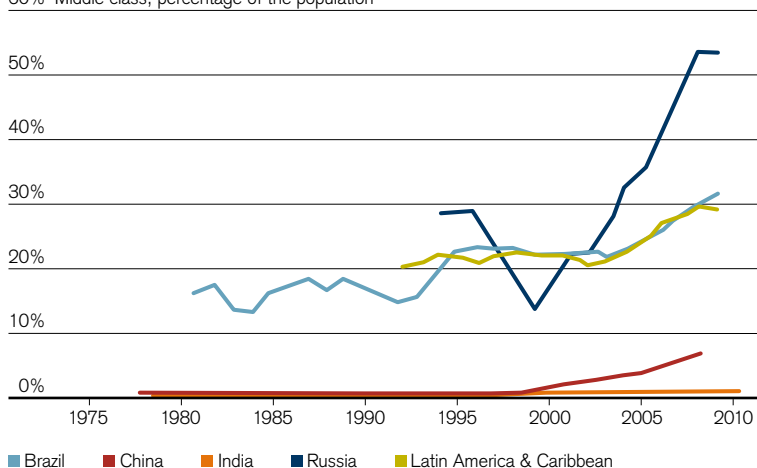
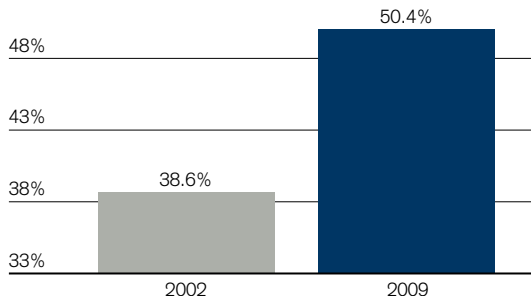


Figure 5

Brazil is the prime example of social mobility in Latin America over the last decade...

Brazil's middle-income class as % percentage of total population
Source: IBGE, Company data, Credit Suisse estimates

53% Middle-income class in Brazil



gram currently costs an estimated 0.5% of GDP. The program has been responsible for an estimated 28% of the reduction in extreme poverty in the country (measured as the percentage of Brazilians living on less than BRL 70 per month), from 8.8% in 2002 to 3.6% in 2012.

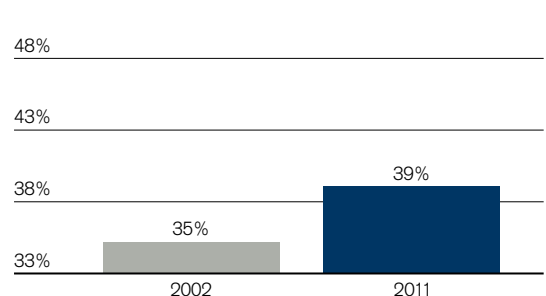
The change in the income distribution of Brazil's population contributed to an expansion in the domestic consumer market. While the control of inflation made it possible for consumers to purchase goods with low added value, the improvement in income distribution expanded the low-income population's access to durable consumer goods with higher added value, such as home appliances and automobiles. Also as a result of these redistribution effects, a greater portion of the population now has access to basic sanitation (Figure 8).

Figure 6

...while the second-largest economy in the region – Mexico – still has much to catch up

Mexico's middle-income class as % of total population
Source: INEGI, Company data, Credit Suisse estimates

53% Middle-income class in Mexico



Access to credit and formalization of labor markets

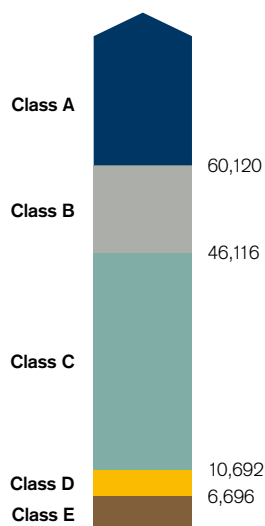
Along with country-specific policies such as raising the minimum wage, we think another key driver of growth in the middle-income class has been higher consumer credit penetration. Similar to social mobility trends, credit penetration trends have been uneven across the region. Brazil stands out. Bank loans jumped from 36% of GDP in 2007 to approximately 54% of GDP in 2013. Loans to individuals account for a 46% share of this total (16% of GDP in 2007 to 26% of GDP in 2013). Mortgages take the lion's share of this increase, jumping from 2% of GDP in 2007 to 8% of GDP in 2013, while share of loans to individuals linked to the purchase of goods fell in the same portion in the meantime.

Figure 7

Distribution of income in Brazil

Source: Getulio Vargas Foundation (FGV), Finance Ministry, Credit Suisse estimates

Total household income from all sources
(USD/year)



Breakdown of income classes in Brazil
(millions of inhabitants)

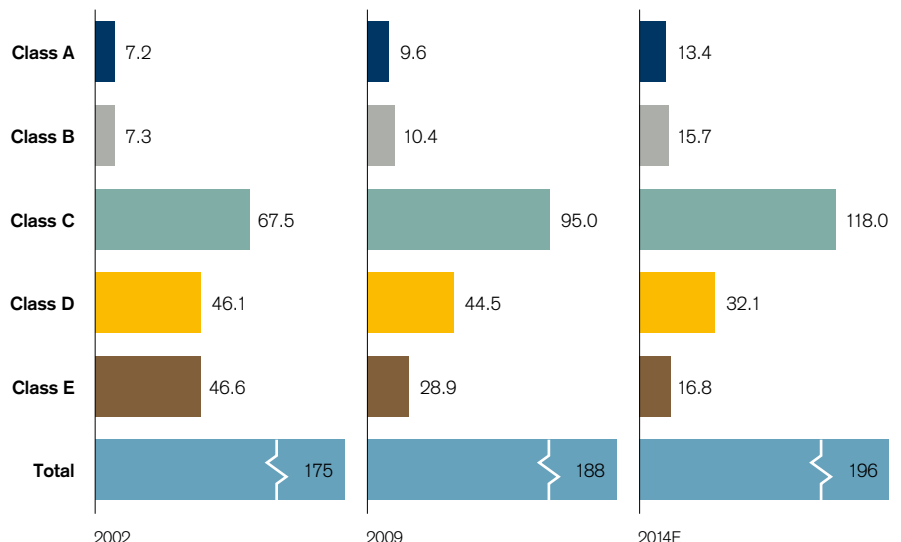




Figure 8

Social improvement in Brazil in recent years

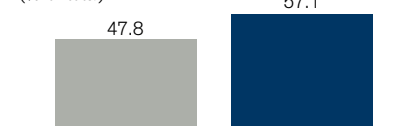
Source: IBGE, Credit Suisse estimates

Improvement to basic living conditions

Households with access to electricity (% of total)



Households with access to sewerage (% of total)

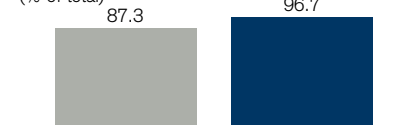


Access to durable goods of lesser value

Households with access to a telephone (% of total)

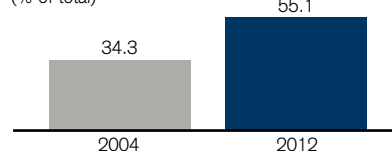


Households with access to a refrigerator (% of total)



Access to durable goods with higher added value

Households with access to a washing machine (% of total)



Households with access to a computer (% of total)

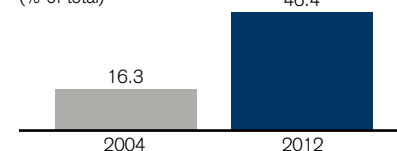


Figure 9

Mexico and Peru provide the best opportunity for formalization of workforce

Informal workers as a percentage of total workforce, based on latest available data (2009–2013)
Source: DANE, INEGI, International Labor Organization, Chilean government

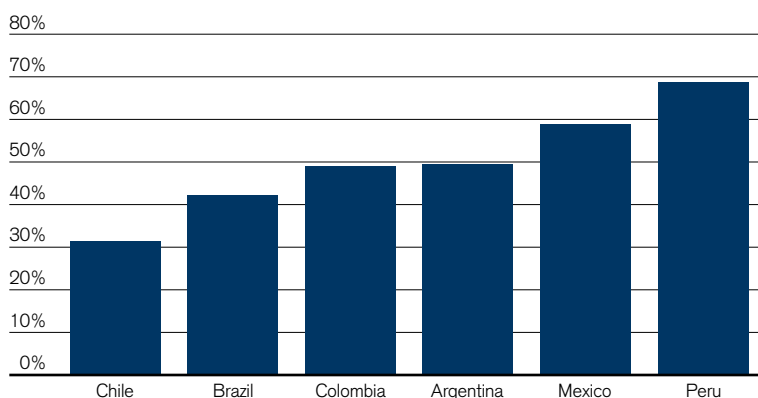


Figure 10

Retail market informality

Informal businesses as a percentage of total retail market; Source: Euromonitor

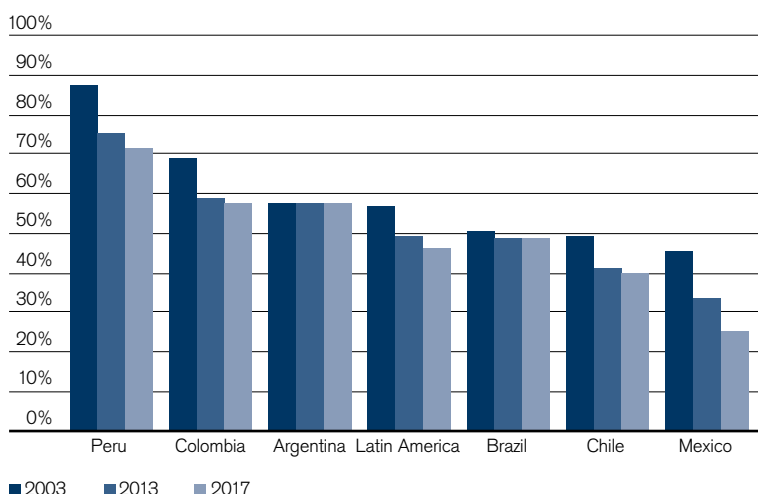
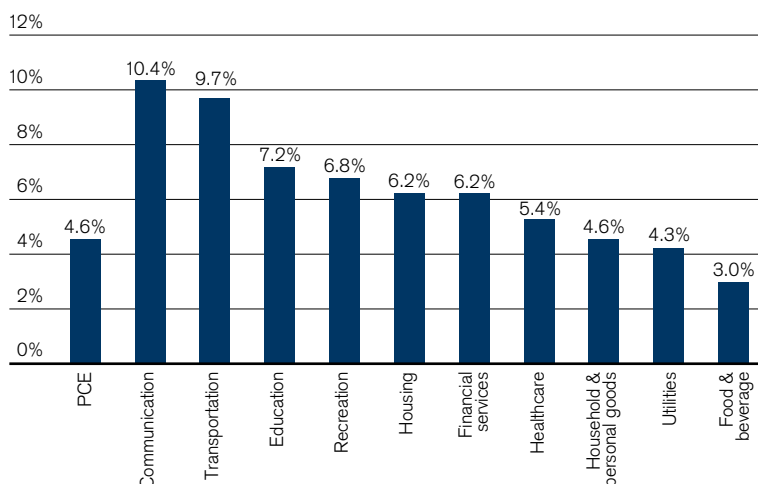


Figure 11

Average annual growth in real terms as GDP per capita rises from USD 7,000 to USD 9,000

Source: BEA, INSEE, Ministry of Internal Affairs and Communications, Credit Suisse research



Meanwhile countries such as Mexico and Peru have seen much lower growth in credit penetration, which has grown roughly 3–4 percentage points of GDP, but remains at low levels. We examine the opportunities for “bancarization” in the major countries in greater detail later in this report.

The formalization of the labor market has been another large driver of social mobility. Labor formalization means that consumers are part of credit databases in their respective countries, and lending institutions have a higher willingness to extend credit. Across Latin America, Peru and Mexico again continue to have very high levels of labor informality at 50%–70% of total workforce, while countries such as Chile and Brazil have the highest level of formalization (Figure 9).

The retail sector in particular is a good example of the size of the informal economy across the region, as around half of the total retail sales across the region remain informal (Figure 10). We believe these highly informal markets, dominated by micro-enterprises (“mom-and-pop stores”), are an opportunity for the consolidation of the retail industry. Formal retail as a percentage of total retail sales in Latin America increased from 43% to 51% over the last decade. Over the next five years, formal retail is expected to grow further, reaching 54% of total retail sales in the region. Among the countries that have seen the largest rate of formalization already are Mexico (going from 55% to 67%), and Chile (going from 51% to 59%). Meanwhile there are countries such as Argentina and Paraguay in which informal retail has actually maintained its share of total retail sales (57% and 84% respectively), driven by a tough macro backdrop, and consumers looking for “convenience and proximity” over retail formalization.

Looking ahead

One of investors’ concerns has been the fast growth in consumer demand and consumer credit in certain Latin American countries in the past few years. Is the expansion of the middle class going to run out of steam? Is consumer growth going to fizzle out? In our report, Consumption Patterns and Emerging Markets published on 17 February 2010, we showed that consumer expansion was driven fundamentally by two main factors: per capita income and demographics. USA, France and Japan were emerging markets (in terms of per capita income and demographic outlook) at the end of the 1940s, 1950s and 1960s, respectively. In these three countries the rise of the middle class and strong consumer expansion lasted for 40–50 years. We believe that in Latin America, there is at least 15–20 years to go. Based on this parallel, we can also see which sectors tended to do better (above-average growth) as consumer demand expands and per capita income grows gradually (Figure 11). We explore these ideas in the following section on the Latin America consumer.



Mexico: Reforms and more reforms

20 years of macro stability...

Mexico has had a strong record of macro stability in the past two decades. The list of achievements is long: inflation and interest rates have dropped substantially, fiscal imbalances have been modest, the debt amortization profile has improved materially and the local market of government securities has become a model for other emerging economies.

... but slow growth

Unfortunately, Mexico's economic growth record in recent years has been very weak (Figure 1). Between 1995 and 2012, annual real GDP growth averaged just 2.5%, at a time in which the country's population grew at an annual average rate of 1.3%. In the rest of Latin America, annual average real GDP growth between 1995 and 2012 was 3.8%, with an average population growth rate of 1.6%. These differences imply a 20% gap over this 18-year period between per capita real GDP in local terms.

A constant theme during these years was Mexico's high dependence on the

external economy, particularly the US, as well as its very limited domestic engines of growth. The talk of a need to implement structural reforms to spur domestic growth was persistent, particularly after the change in government in 2000 from the PRI to the PAN, but it faced significant obstacles, particularly from the PRI-led opposition.

The need for reform

President Enrique Peña Nieto was inaugurated on 1 December 2012 with the challenge of consolidating macroeconomic stability and translating it into gains at the microeconomic level, to alleviate poverty and improve the country's income distribution. From the very start of his administration, President Peña Nieto set out an ambitious structural reform agenda to tackle the structural issues that previous presidents were unable to tackle.

In an unexpected move, the leadership of the three main political parties (PRI, PAN and PRD) joined forces in December 2012 by signing the Pacto por México, or Pact for Mexico, to serve

as the forum where negotiations of key structural reforms would take place.

The accomplishments of President Peña Nieto and his team on the structural reform front have been impressive, giving Mexico a chance to materially accelerate potential real GDP growth in the next few years. Some of the reforms approved in the past year or so include:

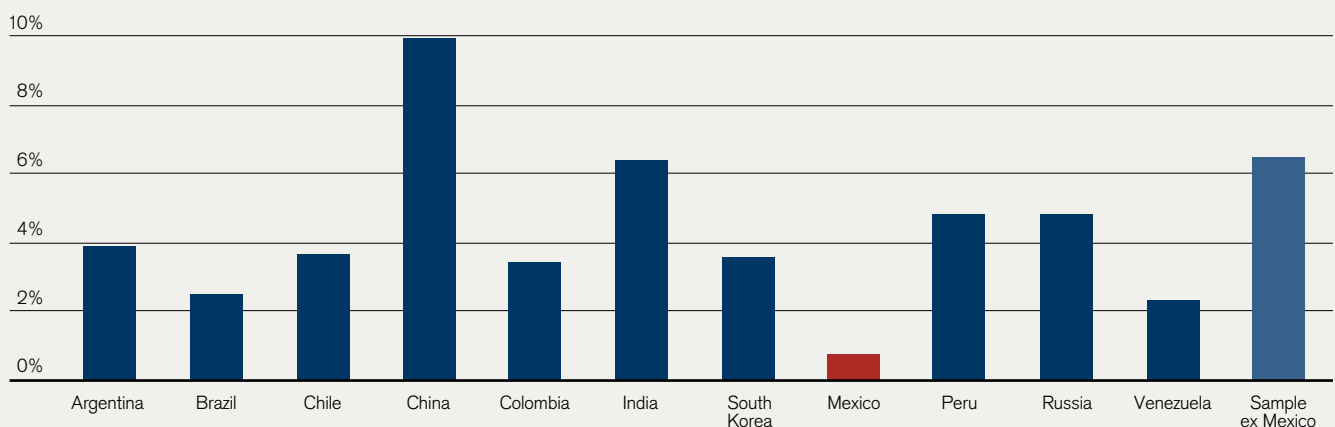
- **Education reform** to increase the quality of teaching in the public and private sectors;



Figure 1

Average annual per capita real GDP growth between 2000 and 2012

Source: IMF, Credit Suisse





- **Competition and telecommunications reform** to enhance the powers of the anti-trust commission and to spur competition in the telecommunications and media industries;
- **Fiscal reform** to strengthen the public sector's non-oil tax collections;
- **Financial reform** to stimulate lending by the commercial and developments banks and
- **Energy reform** to open up the energy sector to private sector participation.

We think that the energy reform that Congress approved in mid-December 2013 represents the most important structural change for the Mexican economy since the signing of the North America Free Trade Agreement in 1993. The approved reform allows the government to give contracts to the private sector (local and foreign) for the exploration and extraction of oil and other hydrocarbons, according to the now modified article 27 of the constitution. Previously,

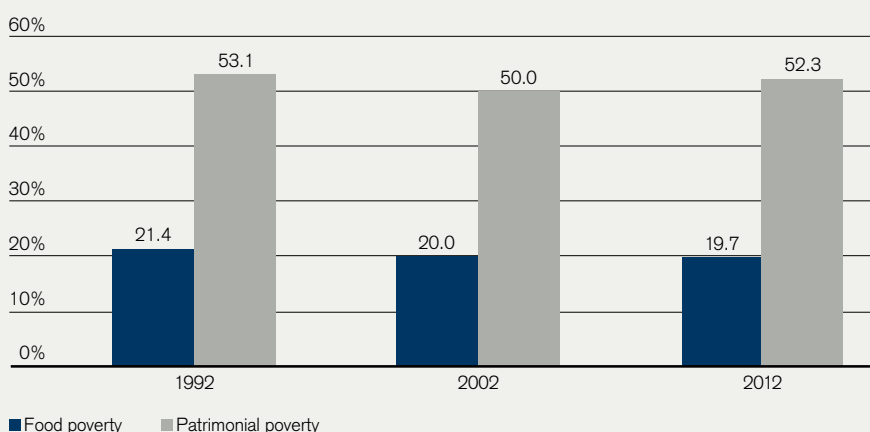
the constitution explicitly prohibited contracts and concessions in the oil industry.

Additionally, the approved reform opened up the electricity sector to private sector participation, as it deleted the constitutional text that previously gave the monopoly of the electricity industry to the State. We estimate that these reforms could boost Mexico's real GDP growth potential by as much as two percentage points in the next few years, from 3.0% to 5.0%. Our estimates are in line with those published by the central bank and the Ministry of Finance. The main contribution comes from the energy reform, which is seen as adding one percentage point to potential growth.

Figure 2

Mexicans living in poverty (% of total population)

Source: CONEVAL, Credit Suisse



Conclusion

The very sound macroeconomic framework, partly forced by the Tequila crisis and enhanced by more recent reforms, has materially improved growth prospects and will make Mexico one of the most appealing destinations for investment—both fixed and financial—in the coming years in our view. What used to be a story of stability is effectively becoming an exciting story of stability and growth.



A man and a woman are shown from the waist up, looking upwards and to the left. The man is wearing a blue button-down shirt and white trousers, and the woman is wearing a light blue dress. They are in a modern office environment with blurred background elements like computer monitors and office furniture.

Consumer trends and opportunities

The ongoing rise of the middle class and further gains in income levels in Latin America are likely to lead to important shifts in consumer behavior, which will pose challenges and opportunities for companies in the retail, packaged goods, e-commerce and financial services segments. These shifts are likely to include: increasing consumer sophistication for products, increasing sophistication for retail channels (including e-commerce), reduced brand loyalty, and changes in consumption patterns from an aging population.

Social migration and consumer “sophistication”

Our research confirms that social mobility not only results in higher consumption, but it also gradually brings “sophistication” to consumption patterns, which helps drive spending, even in the prevalence of more modest volume growth rates. In other words, while upwards social mobility will support growth, consumption will also benefit from the sale of higher value-added products as consumers change and trade-up. For example, according to the Boston Consulting Group (BCG), while households in Brazil earning up to USD 3,000 per year are limited to the purchase of a little more than their basic needs, households earning between USD 3,001 and USD 15,000 per year (i.e. 59% of the Brazilian population) are already looking to buy higher value-added products.

In practical terms, this means that consumers not only buy more TV sets and refrigerators, but: (1) they buy more TV sets and refrigerators with larger screens and offering more features; (2) there is increasing consumption of frozen and ready-to-eat

Figure 1

Social ascension trend should remain in Brazil though at lower levels than the past decade

Source: Data Popular, Exame Magazine, World Bank and BSG

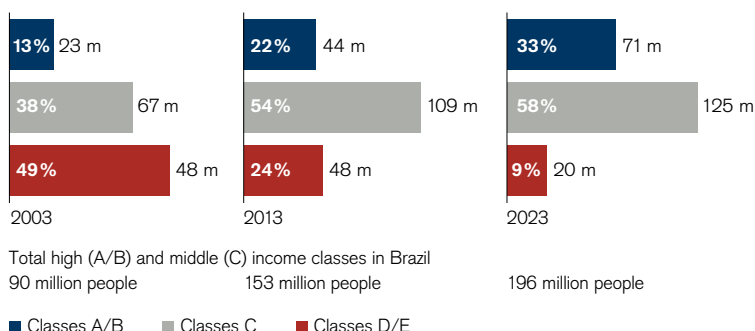


Figure 2

Consumers willing to buy more expensive items in 2013

Source: Data Popular, Exame Magazine, World Bank, Nielsen, Kantar Worldpanel, GfK, IDC, Mulad Lalume/JATO Dynamics do Brasil

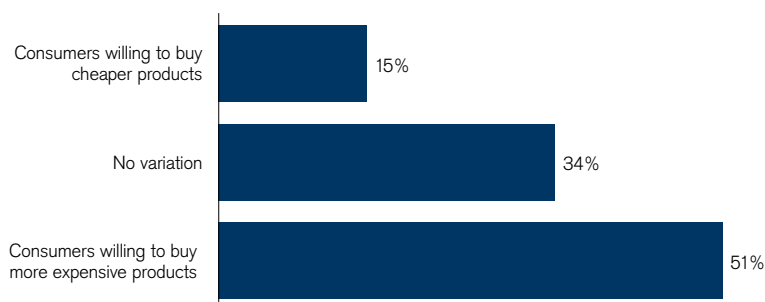
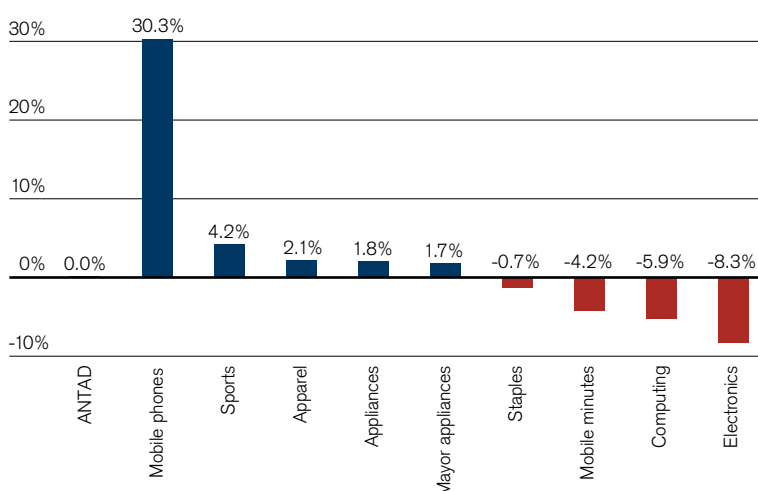


Figure 3

Mexico growth in retail sales (SSS) during 2013, broken down by consumer categories

% change YoY, in nominal terms; Source: Mexican Retail Association, Credit Suisse estimates



products; (3) they buy more premium beverages (6% of AmBev's volumes in 2013 versus around 3% in 2010), etc.

Our Emerging Market Consumer Survey clearly captures some of these trends in Brazil, as illustrated for instance by higher spending on smartphones, Internet access and holidays over the last few years. Importantly, "sophistication" is a theme that is not only affecting higher ticket items (i.e. TVs), but all product categories.

The Brazilian magazine Exame, in its 11 December 2013 issue published interesting data regarding the ongoing changes affecting consumer trends. According to a Nielsen survey of 85 product categories in supermarkets, the proportion of consumers willing to spend more in the purchase of higher value-added items reached 51% (Figure 2) in 2013. Although only slightly above the 50% threshold, we believe that the figure is noteworthy considering that there was only modest economic growth and persistently high inflation during 2013, indicating that consumers are effectively beginning to trade up and are not easily ready to trade down.

Our research into supermarket players indicates that consumers are more willing to buy less frequently in times of a more limited budget, but still buy higher-value added products (i.e. purchase frequency declines but consumers do not easily trade down). To further support our view, between the first half of 2011 and the first half of 2013, the sale of basic products in supermarkets in Brazil increased by 2%, while the sale of more sophisticated products increased by 18% according to Nielsen. During this period economic growth was once again subdued; however, the job market remained very solid (unemployment rate declined to 5.5% from 6.0%) and the real wage bill continued to grow (+2.8% YoY).

Mexico: Consumer sophistication at an early stage

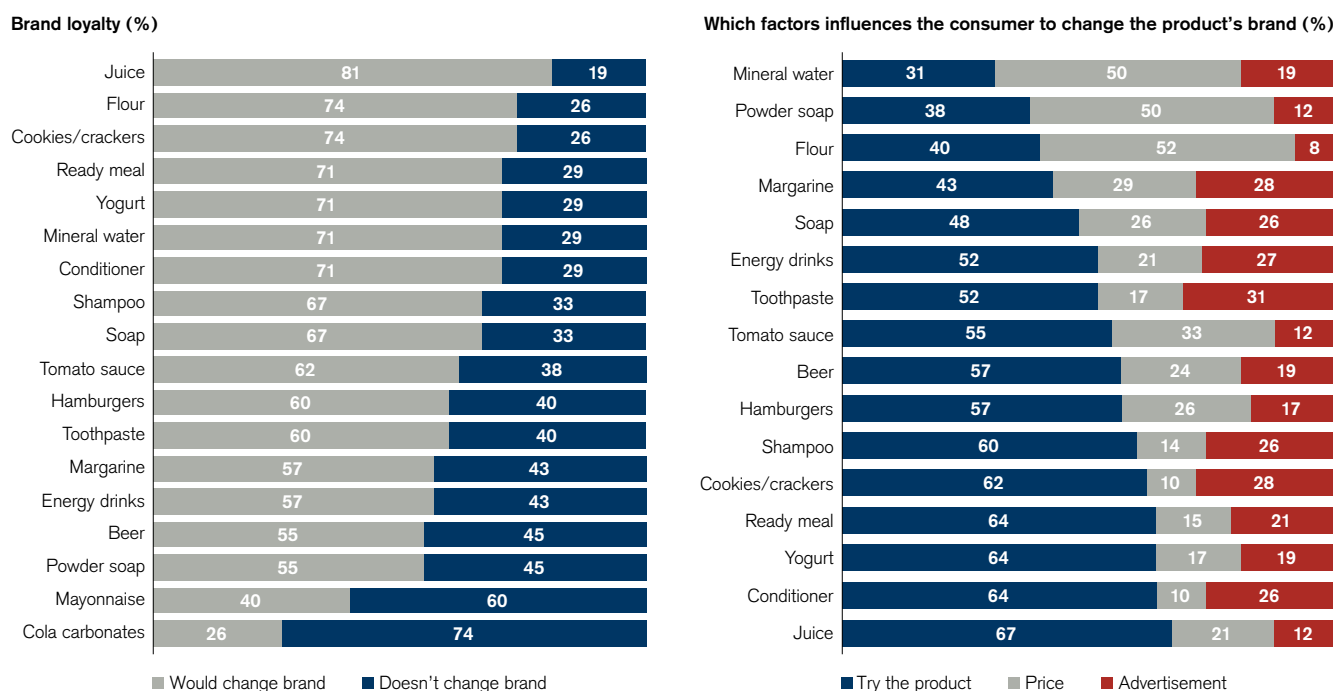
Despite the middle-income class not growing as fast as in Brazil and lower credit penetration, we think the sophistication of the Mexican consumer also has started to appear since 2009. In recent years, department stores have been gaining market share over grocery retailers (which also include non-food items in their sales mix). We see this trend as being driven by department stores' more widely available credit offering, broader assortments and better customer service (providing a "more sophisticated overall shopping experience"), taking share from more traditional retailers focusing on price-driven marketing.

Although Mexican GDP growth turned out to be weaker than expected in 2013 (growing around 1% in real terms versus expectations of 3.5%–4% growth at the beginning of the year), discretionary categories have surpassed consumer staples in terms of same-store sales (SSS) growth, supporting the consumer sophistication thesis

Figure 4

Brand loyalty per category and reasons to switch brands

Source: CS Supermercado Moderno, Consumer Database



(Figure 3). The exception to this trend has been consumer electronics and computing (4% down year-on-year).

We think an important driver of consumer sophistication in Mexico (in addition to the rise of the middle income class mentioned in the previous section) was the removal of import tariffs on apparel manufactured in China (the tariff went down from between 60%–350% to 20%). As a result of the removal of these import tariffs, multinational brands long absent in Mexico are now rushing to get in.

This has become a powerful industry driver as:

- The cultural ties between Mexico and USA have made Mexican consumers extremely “brand-driven” even compared to the rest of Latin America (Mexico has the lowest penetration of private label brands relative to the rest of the region).
- There has been a “democratization process” of foreign brands, as now the middle income segments are able to afford fashionable products coming from abroad (the average price gap for apparel sold in Mexico relative to a similar product sold in USA has gone down from 60%–90% before the removal of the former import tariffs to 15–20% currently).

The bad news for multinational brands trying to enter Mexico is that vacancy rates at class-A shopping malls in Mexico's largest cities (where multinational apparel retailers would like to open their flagship stores) are virtually zero, making the “real estate” of department stores willing to lease space to these new entrant apparel retailers a very valuable asset.

Latin American consumers: lack of brand loyalty may intensify going forward

While the greater purchasing power of the consumer creates huge opportunities, consumer companies in Latin America are facing pressures from multiple angles. Consumers are becoming more sophisticated and demanding more variety and a better shopping experience, distribution still faces important bottlenecks, and multinationals are moving more aggressively. In addition, competition from informal players is still a factor and limits strategic moves in many sectors and regions. The outcome for consumer goods manufacturers is clear: marketing and trade spending should continue to rise. Retailers will need to adapt formats to new consumer demands.

A small portion of consumers may show loyalty to a brand while others focus on prices, but the bulk of consumers often have two or three different preferred brands and will switch among them when their top pick is not available or when they are attracted by promotions in secondary categories. From a sample of 33 consumer categories surveyed for brand loyalty in Brazil, the share of loyal consumers was above 50% in only eight categories. More interestingly, among categories showing a higher propensity to change, price was the main reason in only five categories (Figure 4 shows a sample of these 33 consumer categories).

The lack of loyalty may intensify going forward. First, many categories are new additions to the product basket of the rising middle class, and con-

Figure 5

Apparel sales by format and social income class

Source: ABIT, Credit Suisse estimates

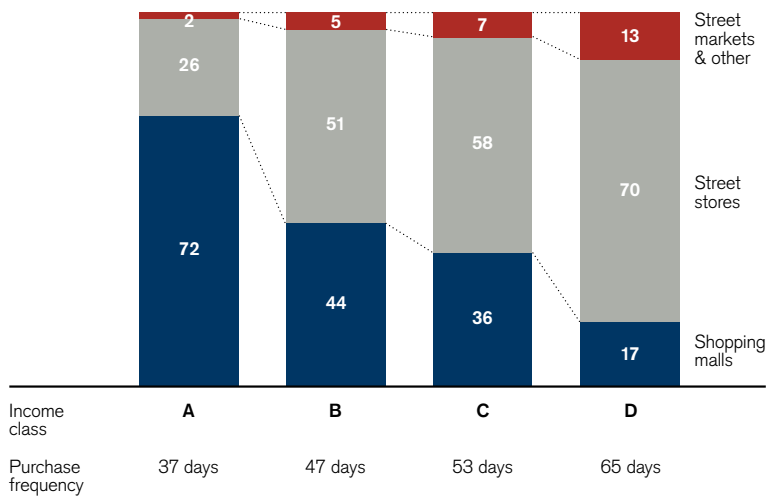


Figure 6

Booming electronic and overall e-commerce sales in Brazil (USD m)

Source: Euromonitor, Brazilian Statistics Bureau (IBGE), Credit Suisse estimates

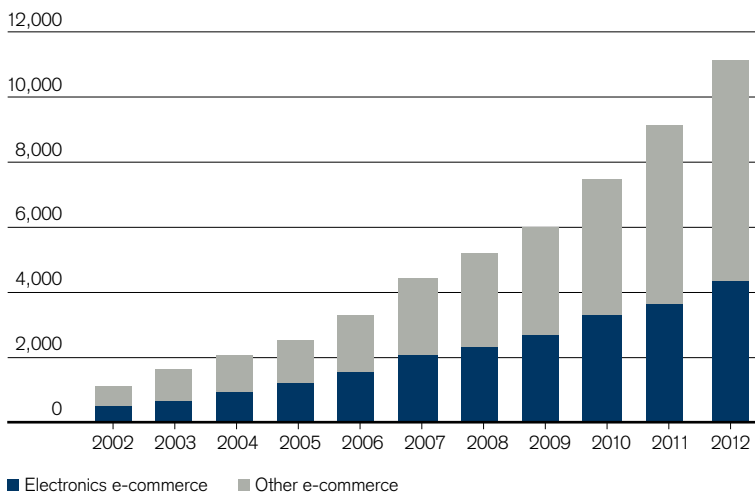
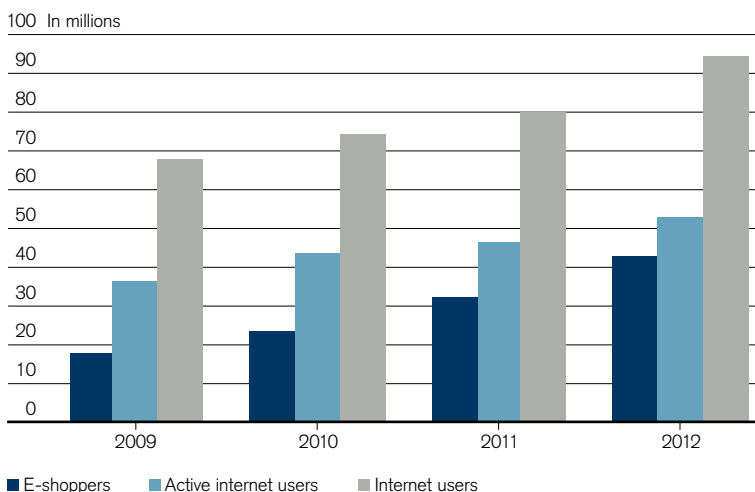


Figure 7

Internet users and e-shoppers growing fast

Source: Euromonitor, Brazilian Statistics Bureau (IBGE), Credit Suisse estimates



sumers might be inclined to try options before establishing a preference. Second, young consumers are typically more open to novelties and the group represents a significant portion of the population.

The sophistication of channels

Another consequence of greater sophistication of the Latin American consumer is increasing difficulty to fulfill all consumer needs within a single format. More consumers will choose different stores on separate shopping occasions. In the case of groceries for instance, it is estimated that consumers do 50% of their shopping at their favorite store in Brazil. A few years ago, this number was 70%. A few years from now, it may well decline to 30%.

Consumers shop differently depending on income. While lower-income consumers tend to prefer smaller street-level and “mom-and-pop” stores, richer consumers do most of their shopping at malls (Figure 5). As household income rises, consumers start attributing more value to other aspects such as product and brand variety, convenience and the overall shopping experience. The fact that they can afford to do so is what is driving this change.

Growth opportunity in e-commerce

More consumers in Latin America are migrating to faster Internet connections (either mobile or fixed). This means that opportunities for e-commerce are also expanding. As an example, overall e-commerce growth in Brazil reached a CAGR of 26% between 2002 and 2012 according to Euromonitor (Figure 6). Convenience, a wide assortment of products and the fast dissemination of electronic means of payments have been crucial. However, trust (16%), competitive prices (16%), free freights (14%) and speed of delivery (13%) remain the most important variables in the purchase decision process according to E-bit.

Overall e-commerce penetration represents only a small part of total retail sales in LatAm. It is only 3% of total retail sales in Brazil and 1% in Mexico versus over 6% in USA, 5% in France and Germany, 13% in South Korea and 4% in China (Figure 8). We expect e-commerce to keep growing at high double-digit rates and gaining share from traditional retail.

We are firm believers in the potential of B2C e-commerce growth in Latin America and we believe that several of the large local retailers are well prepared to lead the market and gain share from smaller operators in the years to come. In spite of strong growth, however, we recognize the B2C e-commerce business has proved to be challenging for retailers. The fact is that the business is very capital intensive, as sales growth requires significant investments in infrastructure, logistics, sys-

tems, technology and, more importantly, working capital. Unlike most of the markets around the globe, sales in Brazil are hugely dependent on selling in installments with no interest rates, which results in a large financial burden, as e-commerce operators end-up discounting their receivables to fund working capital. While top-line growth rates remain attractive, over the last few months some large players have decided to close or scale back their online operations.

The population is gradually aging

Income is often the key variable explaining per-capita consumption differences across geographies. However, it should not be analyzed in isolation. The effects of age, urbanization, the role of gender in the household and financial leverage of families are also important in understanding consumption patterns (Figure 10). These trends also explain a key challenge facing consumer companies in Latin America in the years ahead, namely the growing complexity of their product portfolio.

Demographic trends offer enormous potential for consumption growth, but we see companies facing increasing difficulties in converting theoretical market potential into bottom-line results based on old strategies. Historically, mass market strategies focused on cost efficiency have been quite effective. However, the expected shifts in the demographic profile of the population, combined with changing trends in consumption habits, will require companies to rethink what effectively drives consumption.

As the age-distribution of the region's population is expected to change significantly in the coming years, so should some consumption patterns. In a more holistic view, as the population gets older, spending on healthcare and housing should increase significantly, while consumption of some products will suffer.

Figure 8

E-commerce penetration – % of total retail sales (l.h.s.) vs. YoY change

Source: Ebit Webshopper, McKinsey e Euromonitor, Credit Suisse estimates

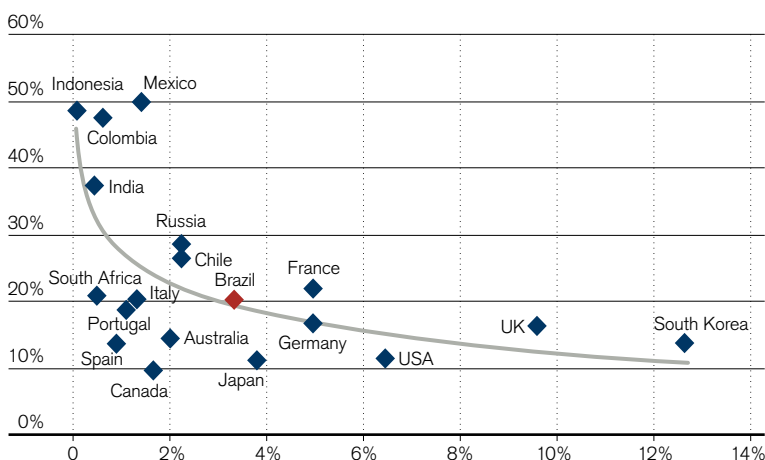


Figure 9

Price impact of e-commerce has been strong (YoY change)

Source: Ebit Webshopper, McKinsey e Euromonitor, Credit Suisse estimates

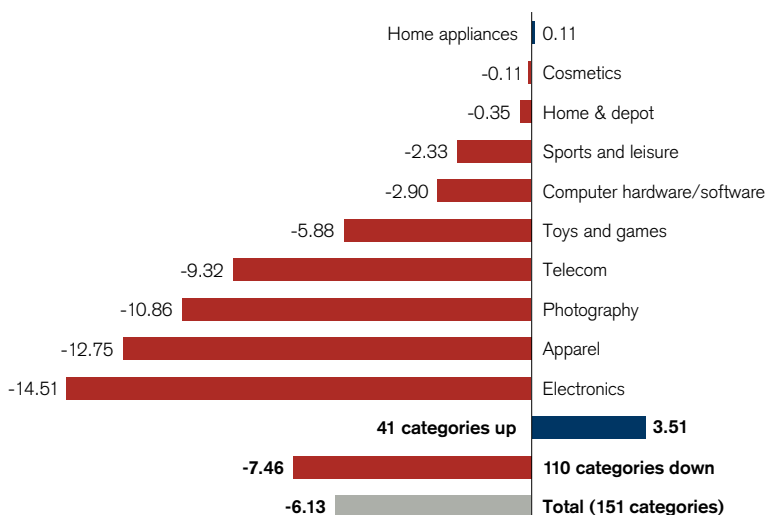
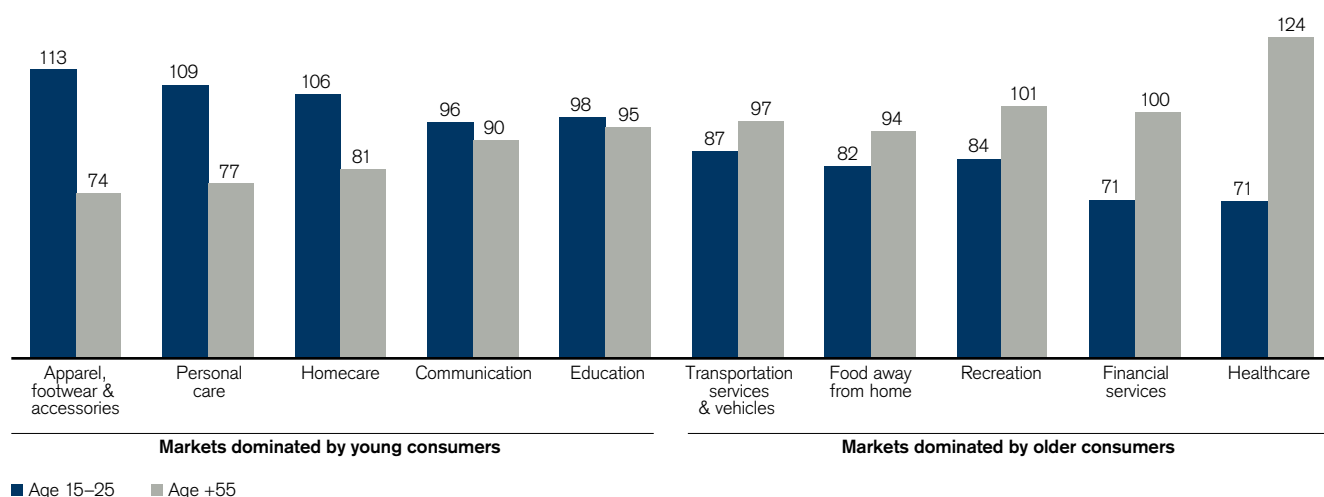


Figure 10

Brazil – Understanding consumption gaps across the age spectrum

Source: CS Consumer Database



Financial services: Opportunities for “bancarization”

Financial services is one of the largest business opportunities in the region. As the economy expands in a tame inflationary environment, banks and insurance companies are poised to grow at a faster rate than the rest of the economy.

In this report we analyze some of the myths and “maths” of the bancarization process in the largest economies in Latin America, with a critical look at the strong bancarization of the past ten years and a view of what the future holds for the main banking sectors in the region over the next decade. We analyze demographics, macro and sector data to assess the addressable market in each country, and make the case that GDP growth is a necessary but not sufficient condition to increase loan penetration in these economies, if it does not come accompanied by better income distribution.

Using Brazil as the benchmark of bancarization given the successful growth in this segment over the past decade (consumer loans represented ~7% of GDP in the beginning of 2001 vs ~19% today), we come to the conclusion that Peru is the most attractive market, followed by Mexico (but by a large distance), as the growth potential is far less than what simple penetration metrics would suggest. In Chile, there is not as much room to grow as many banks would claim and their strategies would suggest. Colombia seems to be the least compelling market as weak income distribution has reduced the size of the addressable market.

Despite the increased penetration of financial services in Latin America over the last 10–15 years (Figures 1 and 2), there is still significant upside. When assessing the opportunity for “bancarization”, we see two important caveats:

- Consumer credit penetration in Chile and Mexico is higher than what it appears on the surface, espe-

cially if we take into account credit given by retailers. Retailers’ non-banking operations add up to 180 basis points and 80 basis points to the consumer credit-to-GDP ratios for Chile and Mexico respectively.

- Comparing the penetration of consumer credit across regions tends to overestimate the upside potential of the Andean markets and especially Mexico versus Brazil, by failing to account for the size of the addressable market in each country, due to different income distributions and lower per capita income levels (even when PPP-adjusted).

The addressable market for banking products varies depending on the average income and its distribution across the population. We consider USD 267 PPP per capita monthly income to be the minimum threshold to assess the addressable market. This is the level of average per capita income of the C class in Brazil (PPP-adjusted).

In Brazil, only 21% of the population has a monthly income below USD 267 (PPP-adjusted), and hence the country stands with the largest addressable market (79%) in Latin America. Mexico and Colombia have the smallest addressable markets – only 50% of the population, followed by Peru with 59% (Figure 3). Chile’s addressable market on the other hand is much higher, at 69%. Another important factor is each country’s disposable income. If we adjust by the difference in purchasing power of each country (PPP), Mexico and Colombia are actually less attractive on a relative basis (Figure 4).



Figure 1

Consumer credit as a % of GDP

Source: Central banks, banking commissions, banking associations, Credit Suisse estimates

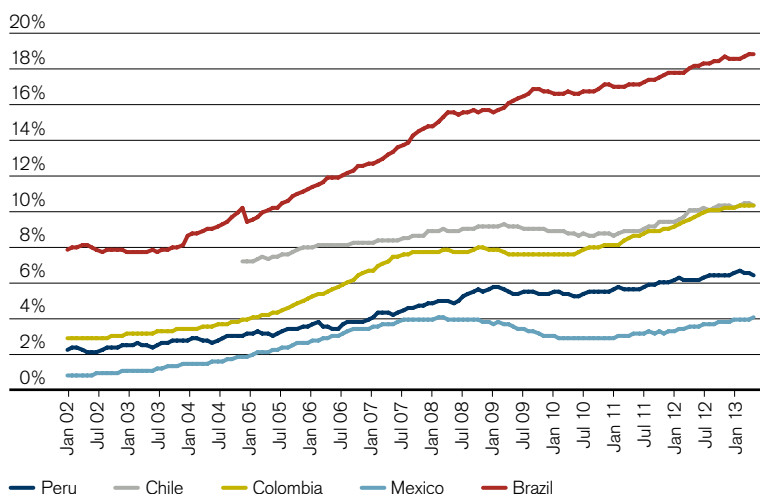
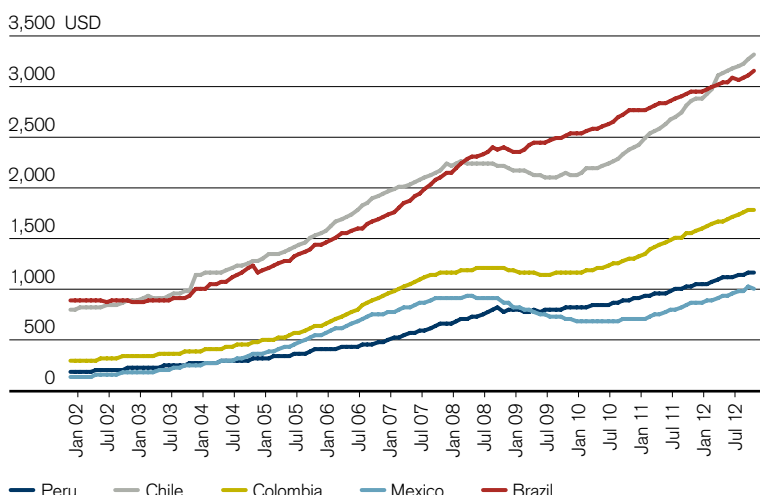


Figure 2

Consumer credit per person 18/19+ years old (USD PPP)

Source: Central banks, banking commissions, banking associations, Credit Suisse estimates



We compare consumer credit to disposable income and to **addressable** disposable income. Naturally, these ratios should not differ much for countries where the relative addressable market is large, such as Brazil and Chile. For Mexico and Colombia on the other hand, credit penetration is approximately 25% higher when we consider only the addressable market (Figure 5). Brazil, Chile and Colombia seem far better penetrated, with Mexico and mainly Peru the least penetrated.

Applying the concept of the addressable market, we calculate the potential increase in consumer credit given the current disposable income of each country, using Brazil as the benchmark. The importance of considering the addressable market thus becomes even clearer. Considering the traditional ratio credit to GDP, Mexico could increase consumer credit by 400% in order to reach Brazil's penetration level; considering only the addressable market (which is influenced by the income distribution) however, the potential is reduced to 70%. Peru is thus the country with the greatest potential by far (140% consumer growth potential). The potentials for Chile and Colombia are far less eye-opening at 20% and 30% respectively (Figure 6).

Some interesting conclusions can be also drawn on the liability side of the banking sector. Mexico, Colombia and Chile's addressable markets are being over-served with branches, while Peru has room for expansion and even Brazil, as indicated by branches per working age population (Figure 7). Similarly, the penetration of current and saving accounts in each country's addressable market is the highest in Colombia, Chile and Mexico (Figure 8).

However, even though Peru looks underpenetrated in terms of branches vis-à-vis the size of its population, the number of accounts per branch is already the highest versus peers (Figure 9). Therefore, we believe that future growth in the Peruvian financial system will have to come in tandem with network expansion which, in turn, does not come cheap. Mexico, on the other hand, posts the lowest penetration of retail accounts per branch, which means that Mexico can experience growth of its bancarized population with better efficiency. The same is also true for Chile, though to a lesser extent.

To understand the potential for further credit penetration in Latin America, we also look at the relationship between domestic credit to private sector and per capita income. Using global data we estimate a 55% correlation between the two. As expected, there is a strong and positive relationship between credit penetration and per capita PPP adjusted income (disregarding how that income is distributed however, see Figure 10).

While common penetration metrics already suggest high levels in Brazil and Chile, they do not do so for Colombia. Credit penetration in Colombia is already high enough, which is consistent with the country's per capita income and leaves little room

for more. More importantly, the curve shows that credit penetration in Peru and Mexico is indeed low, leaving room for further penetration while leaving per capita income unchanged. The key, however, will be how this per capita income is distributed across income brackets.

Banking potential: Peru offers the best opportunity

- **Peru: By far the greatest potential.** Peru scores the best in every aspect. It has the best demographics over the next 10 years, its addressable market is truly the most underpenetrated, having the biggest potential in the region for consumer credit growth (140%) in its addressable market, not to mention the highest GDP growth in Latin America and the biggest potential for the formalization of the workforce. Peru is also underbanked on the liability side, as measured in branches and number of accounts. However, as indicated by having the highest retail accounts per branch ratio among peers, there is no room to increase branch efficiency, meaning that incorporating new clients into the system will require new branches to be opened. So while the top line growth is promising, attention should be paid to costs. Moreover, despite the positive growth in the wage bill over recent years, it has lagged GDP growth substantially. Thus slowdowns in economic activity could have a bigger negative impact on the bancarization process and consumer credit growth than in other Latin American peers.

- **Mexico: Second biggest potential in the region, though less than it appears.** While it is true that the potential for increasing consumer credit penetration in Mexico is significant, the potential is much smaller versus what traditional metrics would suggest. When looking at consumer credit to addressable disposable income, the potential stands at 70%, significantly below Peru's 140%. This contrasts with a 400% potential if one looks only at consumer credit to GDP. Unequal levels of income distribution, which reduce the addressable market to only 49% of the working age population, are the culprit here. Given the small addressable market, it gives the impression that the current potential market is already overserved. Thus, it becomes evident that higher GDP growth rates, a reduction in informality of the workforce and higher wage bill growth, all leading to social mobility towards the middle class, are major preconditions for consumer credit penetration to really go up. Unlike Peru, Mexico does not seem to be in the need of a significant branch expansion in the short to medium term, posting the highest ratio of branches per 1,000 per addressable adult. The current branch network is also underutilized, meaning that banks will be able to increase bancarization levels without much expenditure on the distribution network.

Figure 3

Banking addressable market

Source: Central banks, banking commissions, banking associations, Credit Suisse estimates

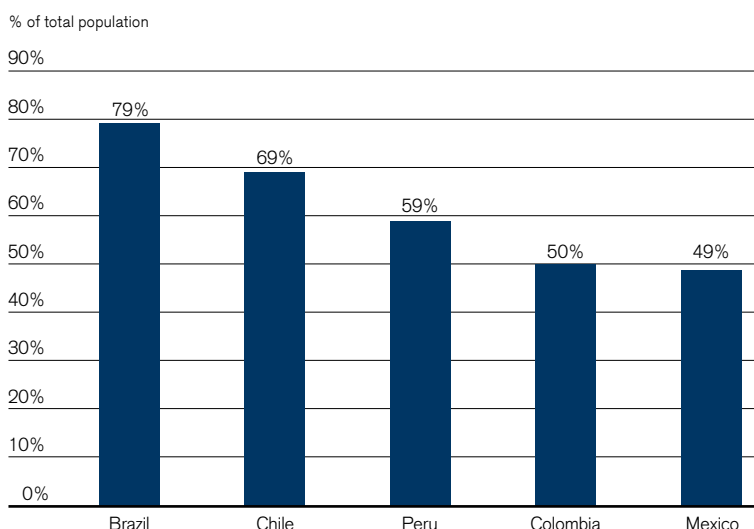


Figure 4

GDP/capita vs. disposable income/capita (PPP-adjusted) (as of 2012)

Source: Central banks, banking commissions, banking associations, Credit Suisse estimates

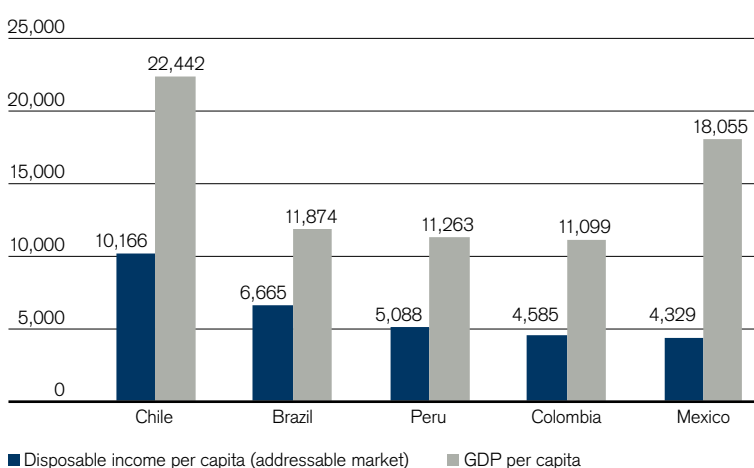


Figure 5

Consumer credit to disposable income and to addressable disposable income

As of 2012; Source: Company data, Credit Suisse estimates

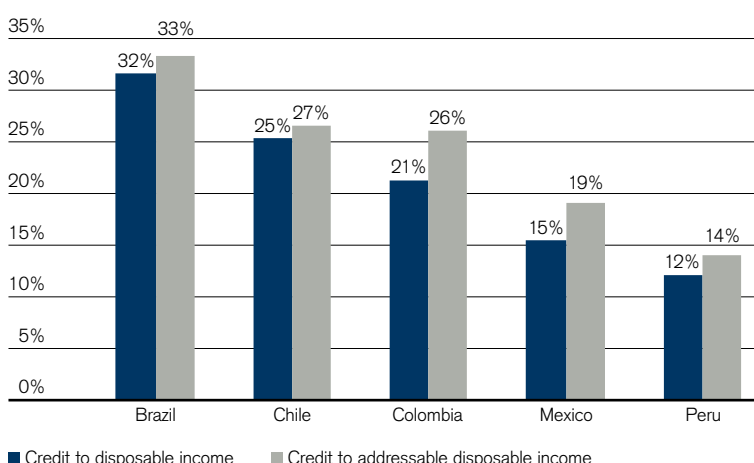




Figure 6

Potential increase in consumer credit penetration (to reach the benchmark)

as implied by consumer credit to GDP ratio and consumer credit to addressable disposable income
Source: Central banks, banking commissions, banking associations, Credit Suisse estimates

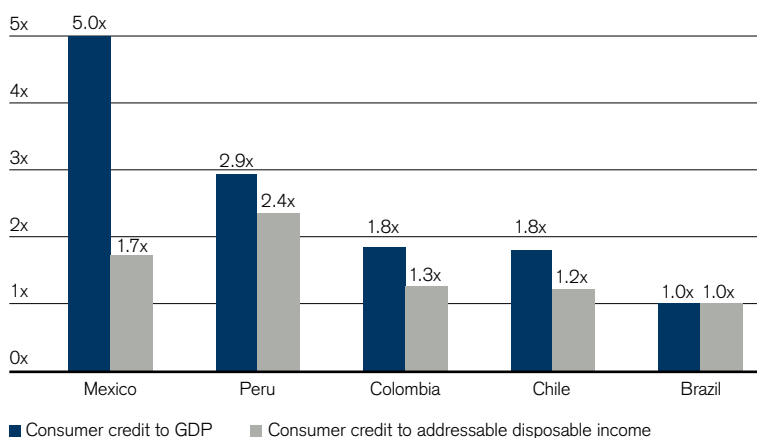
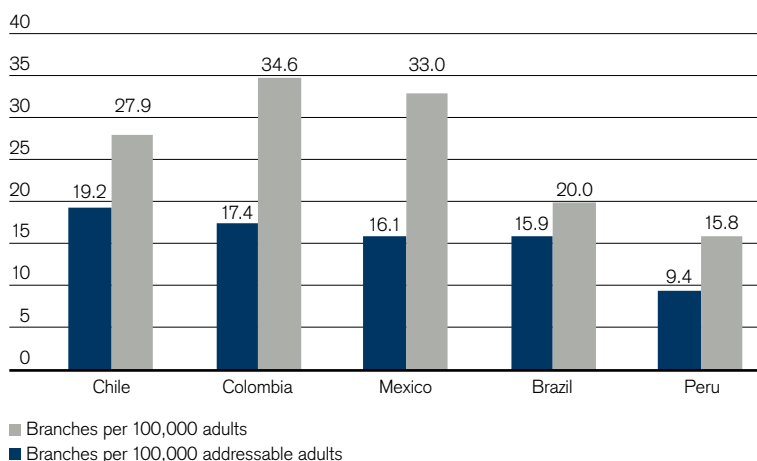


Figure 7

Bank branches per adult

As of 2012; Source: Central banks, banking commissions, banking associations, Credit Suisse estimates



• **Colombia: Potential is smaller than it may seem.** While consumer credit to GDP indicates significant upside, as is the case with Mexico, the weak income distribution reduces the addressable market to only 50% of the working age population; credit to addressable disposable income is the second highest among Latin American peers at 26%, only behind Brazil. Adjusting for such an addressable market, we see potential for only a 30% increase in consumer credit penetration. High levels of informality and the small size of the middle class are the main constraint for growth. Despite robust real GDP growth around 4% over recent years, real wages grew only 1.5%, showing the biggest gap in Latin America (250 basis points). Hence, sound GDP growth is not enough to sustain consumer credit growth; better income distribution and formalization of employment are key. Moreover, when looking at credit penetration versus per capita income, penetration is high enough already in the country. Colombia also seems over-bancarized on the liability side (as evidenced by the highest account and branch penetration in the region), which might make it more difficult to fund future growth.

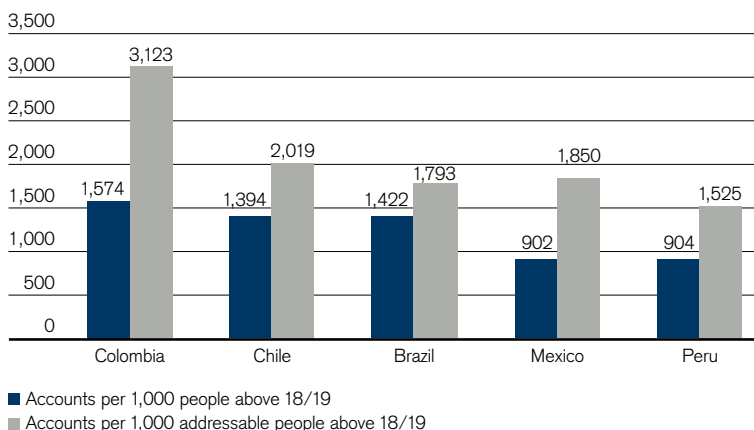
• **Chile: Room for further consumer penetration looks rather limited.** Chile posts the lowest potential for increasing consumer credit penetration among Andean peers, with only a 20% upside versus the benchmark (Brazil). Having better income distribution, a wage bill that grows almost in tandem with GDP, and the lowest informality of the workforce in Latin America all contribute to having the second-largest addressable market in the region (69%) and providing some support to consumer credit growth. Nevertheless, consumer credit to addressable disposable income suggest that the addressable market is already properly served (either by banks or retailers, who play an



Figure 8

Accounts per 1,000 of working age* population and per addressable market (as of 2012)

* Working age defined as 18/19+ years old; Source: Company data, Credit Suisse estimates



important role in bancarizing the mid to low income brackets of population). This single factor (addressable market already served) is, in our view, the main reason behind the limited upside for consumer credit penetration in the country. On the other hand, funding should not be a constraint given that the distribution network is decently sized (with the second largest ratio of branches to addressable population) and leaves room for increased efficiency (as evidenced by the second lowest ratio of retail accounts per branch).

• **Brazil: Relying on higher potential GDP growth.** Brazil is the prime example of the alignment of important factors that enable a substantial increase in credit penetration, namely sound GDP growth rates with an even stronger growth in wage bill resulting in social mobility that puts 50% of the population into the middle class (and almost 80% into the banks' addressable market), accompanied by a sufficient distribution network. Brazil has thus become a real benchmark in the region when it comes to bancarization. As a consequence of this success however, Brazil has run out of room and should not go much further from here (as it has 33% of consumer credit to addressable disposable income, which is the highest level in the region). Besides the addressable market being well-served already, the lower GDP growth rates expected for the years to come and much lower job creation provide little upside. Our analysis in recent reports of the evolution of debt servicing to income ratios shows that, in spite of this metric not getting out of control, it should not improve in the short term either. With higher credit penetration, a relatively large bancarized population and higher levels of formalization of the economy versus peers, the Brazilian banking system depends more than ever on higher potential GDP to grow.

Figure 9

Retail accounts per branch as of 2012

Source: Company data, Credit Suisse estimates

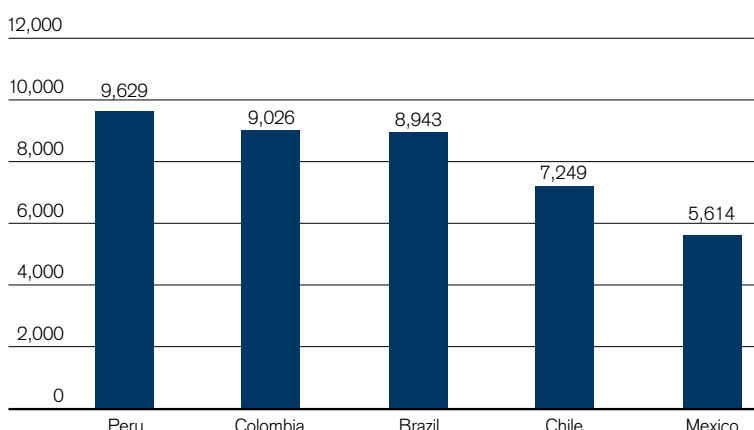
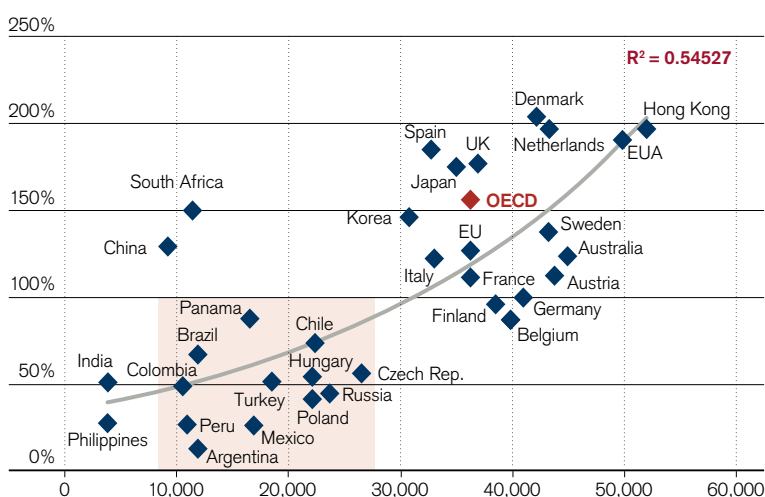


Figure 10

Domestic credit to the private sector to GDP (%) versus USD GDP per capita (PPP adjusted), 2012

Source: FMI, Credit Suisse estimates





Energy – divergence and convergence

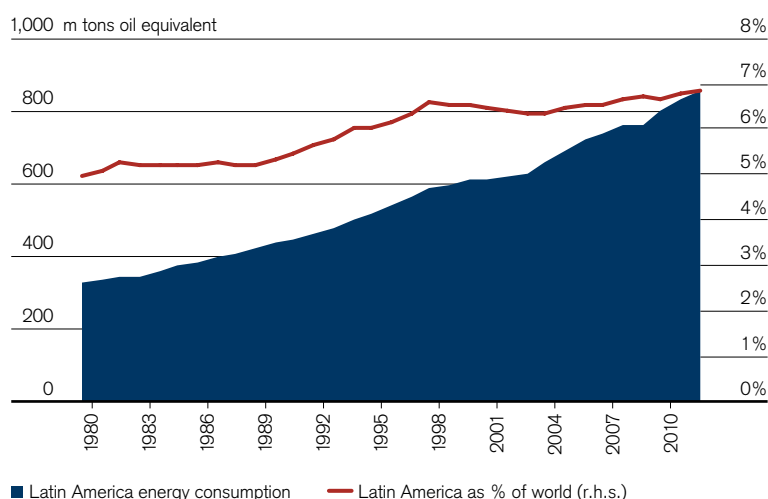
After years of diverging directions in energy policy among key Latin American countries, the region may now finally be converging towards deregulation, increasing energy supply and relevance in a global context. In the past decade or so, divergence was characterized by Brazil and Colombia being the only countries that saw deregulation and an increase in oil production and reserves. Argentina, Venezuela and Mexico saw increased government intervention and a lack of supply growth.

Figure 1

Latin America energy consumption and share of world energy consumption

Source: BP Statistical Review.

Note: Latin America includes all countries in South and Central America plus Mexico



After years of significant divergence in the energy policies and production profiles across Latin America, a new convergence may happen with a second leg of growth in Brazil (via the development of the pre-salt discoveries), the emergence of world-class shale plays in Argentina, a much-needed historic Mexican energy reform, and the continuation of the Colombian oil sector development with the emergence of various smaller E&P players. The direction of Venezuelan energy policy and prospects remains unclear at this point, despite the country holding the world's largest oil reserves.

Where Latin America currently stands

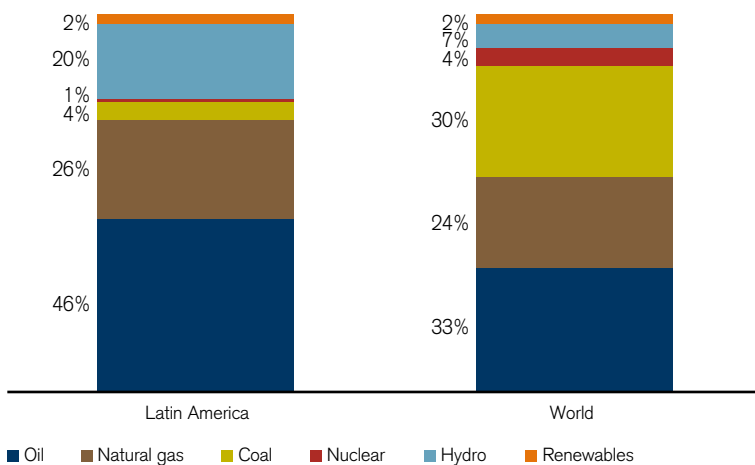
Latin America is already a relevant part of the global energy picture. Since the 1980s, the share of the region in global energy consumption has increased from 5% to 7%, driven by higher-than-average economic growth (Figure 1). A key distinguishing factor in Latin America, led by Brazil, is

Figure 2

Energy consumption by fuel type: 23% of Latin America from non-fossil, vs. 13% world average

Source: BP Statistical Review

Note: Latin America includes all countries in South and Central America plus Mexico



the high use of non-fossil fuels in its energy matrix. Non-fossil fuels are responsible for 23% of Latin America's energy consumption – almost double the world average of 13% (Figure 2).

On the supply side, we focus on oil, which still accounts for the majority of energy needs. Against growing demand, Latin America production has remained flattish over the past 10–20 years (Figure 3). Oil production in Latin America reached a peak of 14% of world production in 1998, but since then has declined steadily, coming back to 12%.

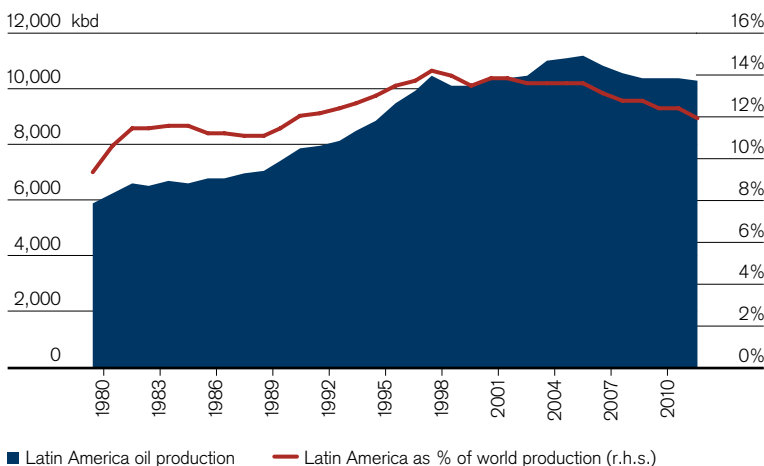
On a reserves basis, excluding Venezuela (which saw a 200 billion bbls increase in reserves after 2008 which did not however translate into production increases), Latin America reserves have come down from close to 10% in the 1980s to 3% today, impacted in part by a large 26 billion bbls reserve downgrade in Mexico in 1998 (Figure 4). Including Venezuela's reserves upgrade, the region would have doubled its share of global reserves from 10% to 20%.

Figure 3

Latin America oil production and % of world

Source: BP Statistical Review.

Note: Latin America includes all countries in South and Central America plus Mexico



The past: Divergence years

Latin America's oil production remained stable in the past 15 years at the 10,000 kbd level, but this reflects mostly different policies and production performances across the key countries (Figure 5).

In the past 15 years, only Brazil and Colombia saw production growth, which was entirely offset by the declines seen in Mexico, Venezuela, and Argentina. Brazil reaped the fruits of deepwater discoveries in the Campos basin and the end of the Petrobras monopoly in 1997. Colombia started to see a decline in 1997 due to guerrilla activity impact in the two key fields of Cano Limon and Cusiana/Cupiagua, only to rebound in mid-2000s with lower or no guerrilla activity, the restructuring of Ecopetrol, attractive fiscal terms, the creation of a national hydrocarbon agency and the flourishing of more than 100 smaller E&P companies in the country.

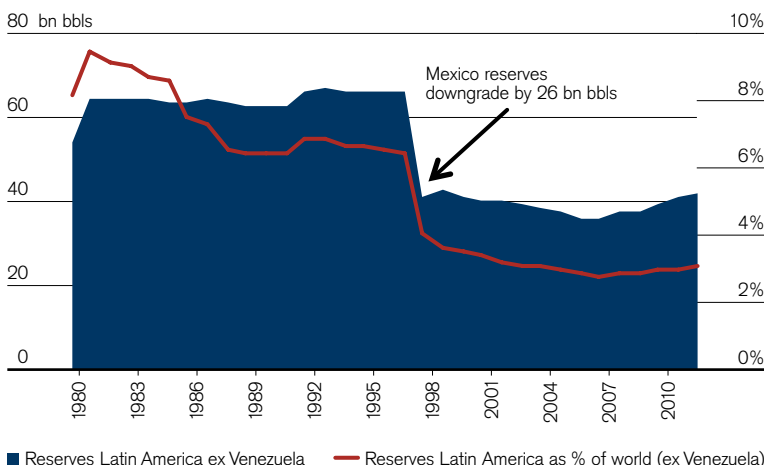
Venezuela production reached a peak in 1998 before the Venezuelan oil industry suffered a country-wide strike in 2002–03, resulting in PDVSA dismissing 20,000 workers and shutting many fields. In 2009, the country nationalized the assets of over 80 services companies. All of that resulted in a strong decline in production. After a strong economic crisis in 2002, Argentina started to enforce pricing control mechanisms to stimulate demand, which resulted in disincentives to oil companies, with a consequent fall in production and rising import needs. In the past decade, Mexico suffered a significant drop in production — which was mainly driven by the Cantarell field decline — and went from producing 3.4 mb/d in 2004 to 2.5 mb/d in 2012 (Figure 6). In the same time frame, Pemex shifted to more capex-intensive wells. This has translated into higher imports at the midpoint of the chain (mainly in gasoline), an increase in lifting costs and a decrease in hydrocarbon output.

Figure 4

Oil reserves and % of world, ex- Venezuela

Source: BP Statistical Review.

Note: Latin America includes all countries in South and Central America plus Mexico



The future: Convergence mode?

Going forward, Latin America has the opportunity to enter a period of convergence and growth. Most countries are moving in a similar direction in order to reap the benefits of a strong resource base. Here we focus on Argentina, Brazil, Mexico and Venezuela – the countries with the highest material impact (Figures 7 and 8).

- **Argentina.** Argentina's unconventional resources started to get attention at the end of 2010 with the YPF oil company's 4.5 billion trillion cubic feet (tcf) tight gas discovery in southern Loma La Lata, followed by an April 2011 report by the EIA highlighting Argentina as having the third-largest shale recoverable reserves globally at close to 800Tcf (Figure 9). Since then, YPF has announced a number of shale oil discoveries and certified over 14 billion barrels of oil equivalent (boe) of net resources. With new management following the Repsol expropriation in early 2012, YPF has partnered with Chevron to speed up shale development. Macro stability, external financing, further partnerships and international price parity will be key to financing the enterprise.

- **Brazil.** Following the impressive production growth in recent years driven by deepwater post-salt discoveries in the Campos basin, Brazil's second leg of growth is bound to start with the development of the pre-salt areas in the Santos basin. With a high USD 50 billion/year budget, Petrobras aims to double production by 2020. After that, further growth could come with the development of other pre-salt areas, the first of which – Libra – was

Figure 5

Oil production in key Latin American countries – divergence

Source: BP Statistical Review

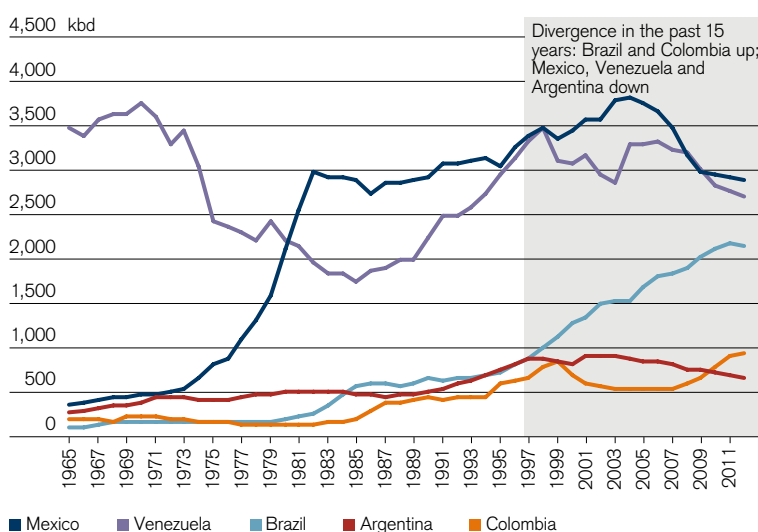


Figure 6

The collapse of the Cantarell Field illustrates the mismanagement of Mexico's oil industry (kbd)

Source: Company data, Pemex 20-F

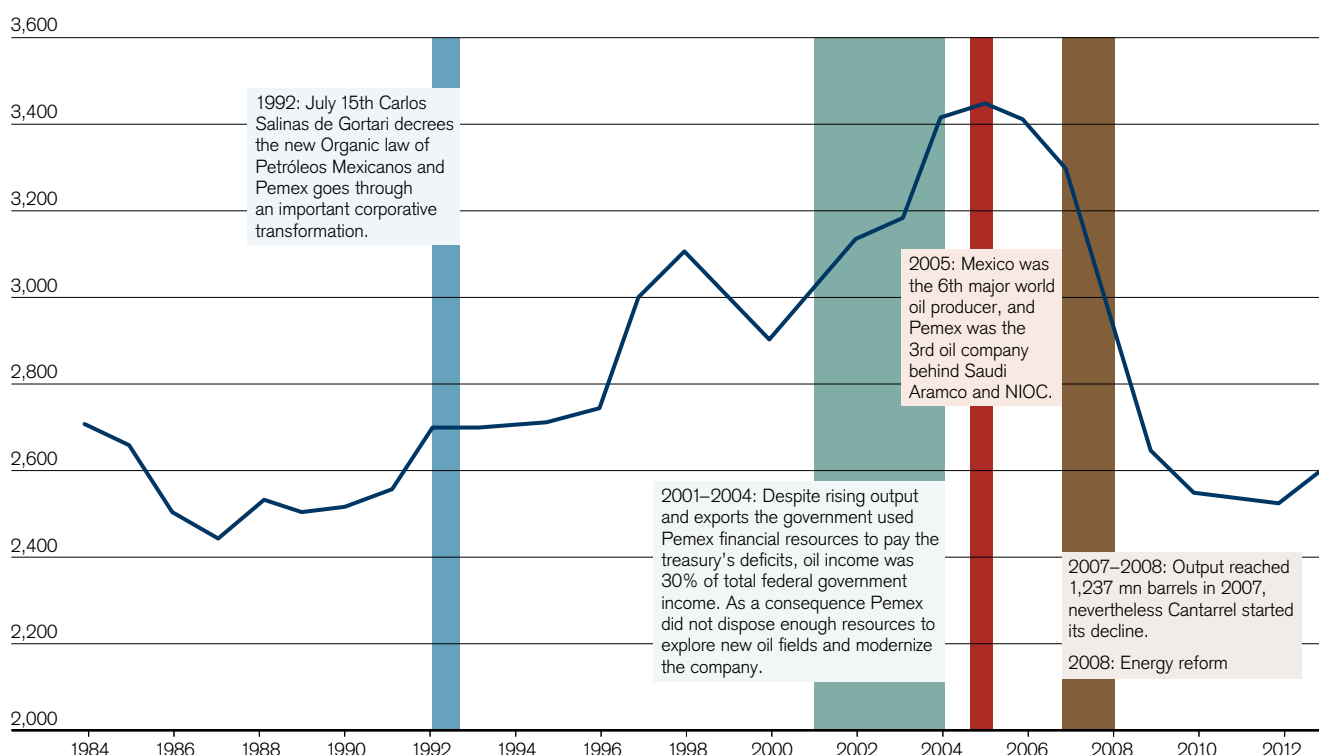




Figure 7

Brazil, Argentina and Venezuela could be key contributors to oil production growth until 2035

Source: IEA World Energy Outlook 2013

Change in oil production 2012–2035 (mb/d)

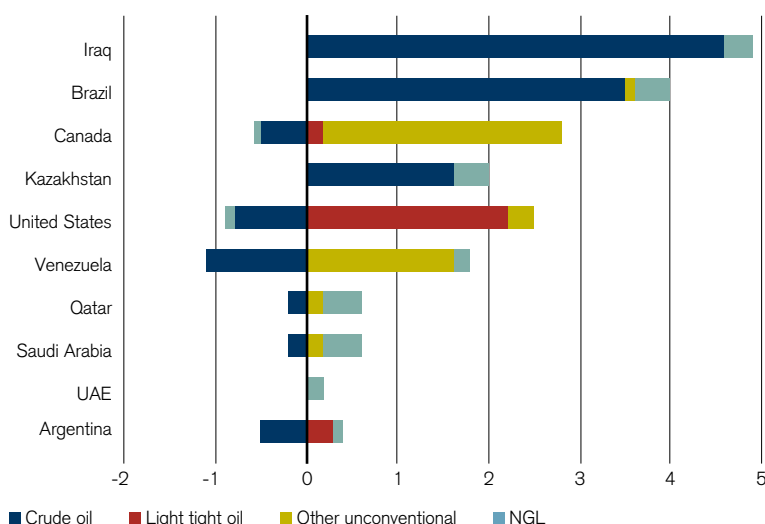
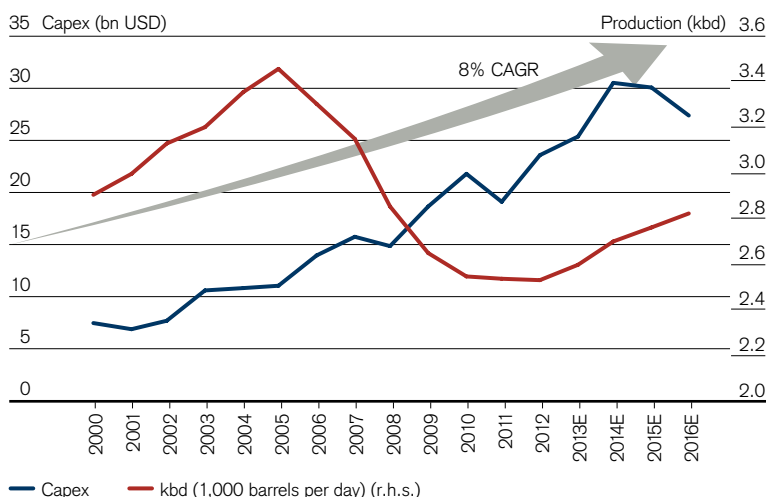


Figure 8

Mexico is adding output at higher costs. Nevertheless current funding is not enough to achieve previous levels

Source: Pemex



licensed last year in partnership with Shell, Total and the Chinese CNPC and CNOOC companies. Other areas, such as the Equatorial Margin and Sergipe, could contribute to future growth. Adequate ramp-up of a local supply chain will be key to supporting a heavy investment schedule with high local content requirements.

- **Mexico:** Resources are estimated at 115 billion boe with three-quarters identified as unconventional (i.e. shale oil, shale gas and deep waters). In December 2012, both houses of the Mexican Congress approved amendments to the country's constitution which allow private companies to participate in E&P activities, while liberalizing restrictions in the electricity sector. In terms of timing, we believe secondary laws will be passed in the first half of 2014. On this estimated framework, we could expect bidding rounds to be in full shape in 2015, targeting onshore production from privates in 2018 and deep-water output from private players in 2022.

- **Venezuela.** The country holds the largest oil reserves globally, comprised mostly by unconventional heavy oil in the Orinoco belt. For this to be developed, heavy investments will be required, most likely in a PDVSA-partnership with international oil companies and service providers. While the potential is large, there are few signs that the recurring underinvestment and decline in production will reverse any time soon.

A word on Latin American shale

Unconventional resources and the rise of shale exploration and production in USA are a crucial global energy theme and have triggered interest and efforts in other parts of the planet. This has not been different in Latin America: shale represents an important part of the future of energy in the region, spearheaded by Argentina.

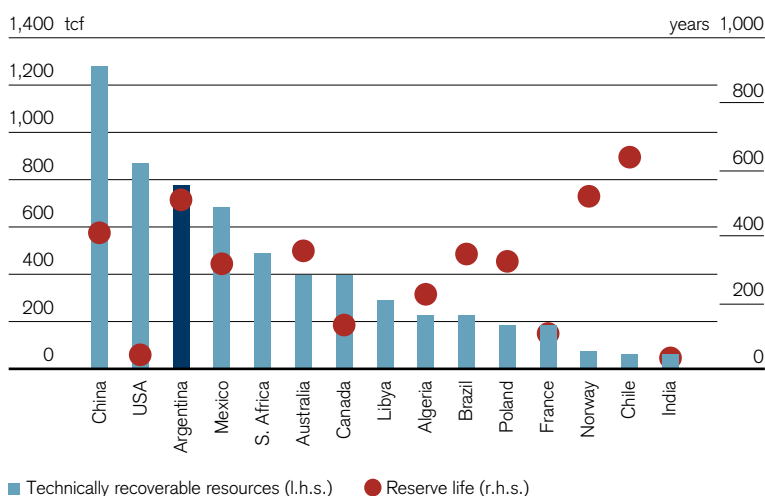
Since the above-mentioned tight gas discovery in southern Loma La Lata, YPF has announced a number of shale oil discoveries in the Vaca Muerta formation in Neuquen and Mendoza, and Ryder Scott has certified over 14 billion boe of net



Figure 9

Technically recoverable shale gas resources globally (tcf)

Source: EIA – World Shale Gas Resources: An Initial Assessment, April 2011



resources. There seems to be a number of compelling reasons for the oil industry (and investors) to be upbeat about the unconventional resource opportunity in Argentina. At the same time, there are a number of challenges that will also need to be overcome, such as oil services, macro and political uncertainty, potential environmental issues and in the case of YPF also financing.

The opportunity

There seem to be a number of compelling reasons for the industry to be upbeat about the opportunity in unconventional Argentina, which so far has focused on the Vaca Muerta formation in the Neuquen province:

- **“World-class resource.”** There seems to be growing consensus from industry experts and oil companies on the geological quality of Vaca Muerta. From thickness to depth, areal extent, organic content, depositional environment, mineralogy, pressure and thermal maturity, a whole host of geological characteristics seem to make Vaca Muerta a “world-class resource” which stands up to comparisons with established shale gas plays in USA (Table 1).

Figure 10

Technically recoverable shale gas resources in Argentina (tcf and % of total)

Source: EIA – World Shale Gas Resources: An Initial Assessment, April 2011

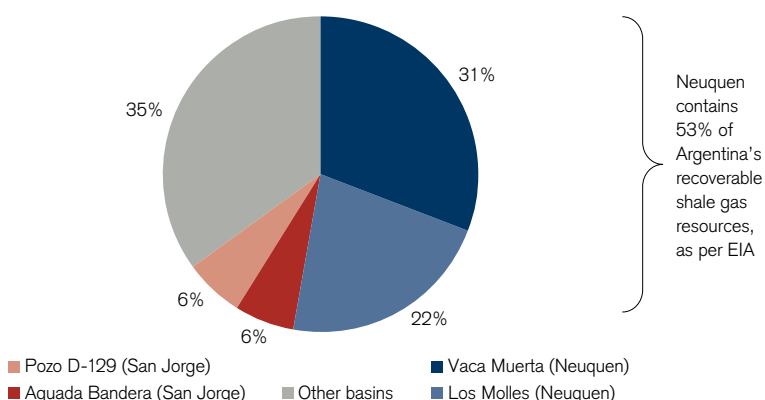


Table 1

Summary comparison of Vaca Muerta and key shales in USA

Source: YPF, SPE, EIA, WoodMackenzie, UG Harts

		Vaca Muerta	Barnett	Haynesville	Marcellus	Eagle Ford (oil window)	Bakken
TOC	%	6%	5%	2%	12%	4%	12%
Thickness	meters	200	91	76	61	61	30
Depth	meters	3,000	2,286	3,658	2,057	2,287	1,829
Area	Km ²	30,000	16,726	23,310	245,773	5,180	51,800
Reservoir pressure	psi	9,000	3,525	10,800	3,375	4,502	4,200
Pressure gradient	psi/ft	0.65–1.0	0.5	0.9	0.5	0.6	0.7
STOOIP	mmbbl	?	-	-	-	114,000	200,000
STOOIP/km ²	mmbbl/km ²	33–58	-	-	-	22.0	3.9
OGIP	bcf	-	422,337	717	1,499	-	-
OGIP/km ²	bcf/km ²	-	25.3	30.8	6.1	-	-



- **Industry has stepped in.** Another factor that can give investors more confidence on the potential of the opportunity is the stamp of credibility that is being given by the oil industry, with large integrated and E&P companies such as Total, Exxon-Mobil, BP, Petrobras, Apache and EOG already present in the basin as well as YPF. In 2012, YPF signed a MoU with Chevron to study a partnership in both conventional and unconventional assets, and both companies are now set to go ahead with development.

- **(Some) infrastructure is in place.** Even though the excitement about Neuquen's potential as an unconventional play picked up relatively recently, it is important to highlight that it is already the highest producing basin in Argentina, responsible for around 33% of the country's total production (Figures 11 and 12). This is important because it means that physical and non-physical infrastructure related to oil and gas monetization is already in place. Gas y Petroleo Neuquen (the provincial oil company that has regulatory and oversight responsibilities) estimates that the province has enough pipeline capacity to accommodate an increase in unconventional activity for the next 5–6 years.

- **Beyond Vaca Muerta.** We also make the point that although most of the near-term activity is likely to focus on the Vaca Muerta formation, there are 10 other formations spread through Argentina which might hold interesting unconventional potential. Of those, Los Molles and Agrio seem to be the most promising, both are also located in Neuquen.

The challenges

There are a number of challenges to developing any exploration frontier in any region in the world, and this is no different for shale development in Argentina. We broadly label the various challenges we think are relevant in three categories: oil services, macro and political and environmental.

- **Oil services challenges.** Oil services companies likely need long term contracts and adequate pricing to offset the inherent risks of entering a new country.

- **Macro and political uncertainty** is probably the most relevant challenge at the moment, especially after YPF's nationalization.

- **Environment and water.** Water is the theme which we find most difficult getting data on or specific regulation in Argentina.

- **Time.** Furthermore, we think the industry and investors need to keep in mind how fast Argentinian shale will be able to ramp-up and increase efficiency, given the experience with the US shale. In general terms, it took two years for the USA to double its unconventional rig count from around 350 rigs in early 2009 to a level of 700 rigs early in 2011 that has been sustained until now. This impressive ramp-up in shale activity carries two side effects: (1) a beneficial increase in efficiency, but also (2) significant cost-inflation.

Figure 11

Argentina's oil and gas production by basin

Source: Secretaría de Energía Argentina. Note: Volumes in kboed

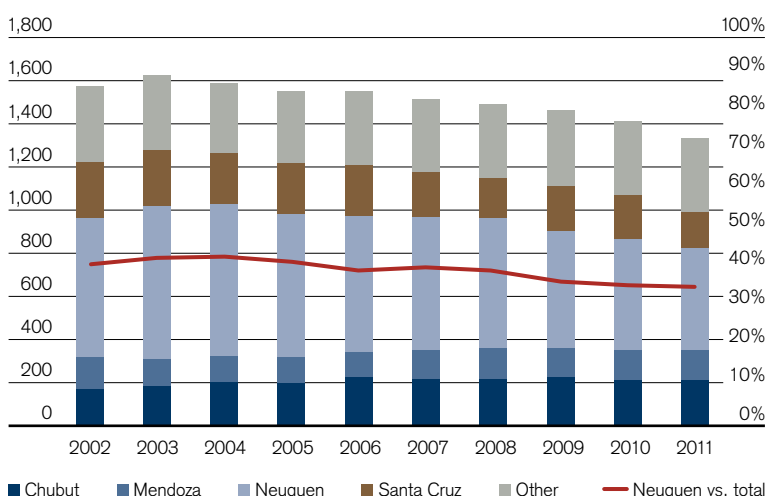
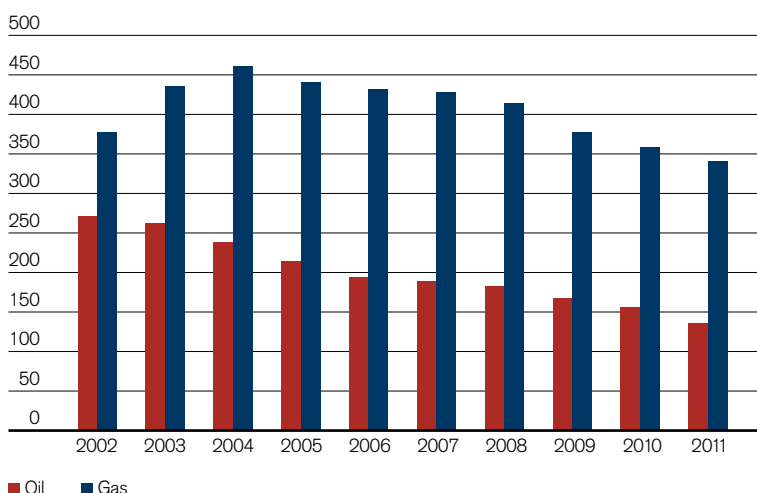


Figure 12

Neuquen oil and gas production over time

Source: Secretaría de Energía Argentina. Note: Volumes in kboed





Infrastructure: The Achilles' heel

While Latin America has been one of the most dynamic regions globally, offering interesting investment opportunities, its underinvestment in infrastructure puts the region at a disadvantage relative to other developing regions, namely Asia Pacific and Eastern Europe.

According to the United Nations Economic Commission for Latin America (ECLAC), Latin America's average total investment in infrastructure amounted to around 2% of GDP in the last decade, less than half of the minimum required to sustain economic growth of 4.5% (Table 1). To put things into perspective, China and India invested around 13% and around 5% of their GDP respectively.

How did we get here?

Latin America's inadequate investment in infrastructure the last 20-30 years has been a consequence of several factors, including the lack of appropriate fiscal policy, an unstable macroeconomic backdrop and ultimately the absence of long-term planning. In the past, whenever governments faced constrained balance sheets, a choice between infrastructure investments and other social priorities such as education, healthcare and pension funding ended up precluding higher investments in infrastructure. According to a study published by the Central Bank of Chile, infrastructure investments in Latin America declined by 0.8% of GDP when the region faced rising deficits.

While Latin America's public infrastructure investments were jeopardized by the above-mentioned factors, private investments were also hampered by the poor regulatory framework and cumbersome environmental licensing process.

Looking at the World Economic Forum ranking, almost all Latin American countries suffered deterioration in their overall infrastructure (Figure 1).

Figure 1

Ranking of quality of infrastructure

(1 = best performer, 144 = worst performer); Source: World Economic Forum, Credit Suisse Research

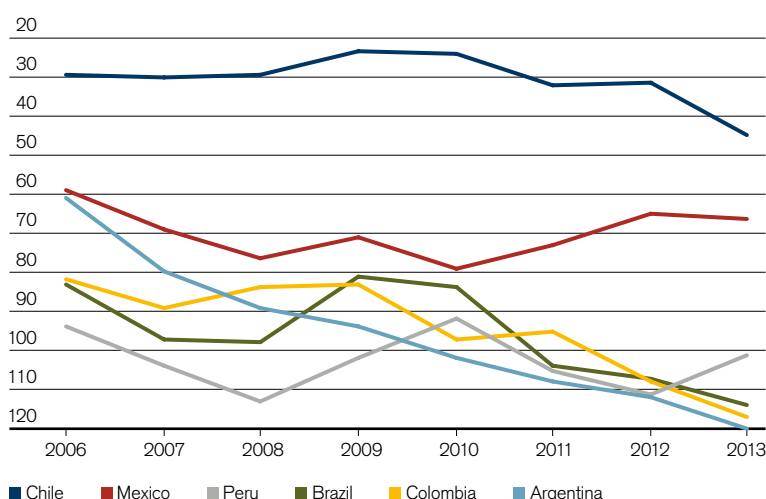


Table 1

Major Latin American countries, infrastructure investments as % of GDP

Source: World Bank, Inter.B Consultoria, Credit Suisse Research

	1993–2003	2003–2012	2013–2020
Brazil	2.19%	2.13%	4%–5%
Mexico	1.49%	3.95%	5%–6%
Colombia	3.10%	4.30%	8%–9%
Peru	1.86%	2.54%	4%–5%
Chile	4.80%	4.9%	5%–6%



For the past five years, countries such as Brazil, Chile, Argentina and Colombia have consistently witnessed a deterioration in modes of transportation; this according to surveys such as the World Economic Forum annual rankings in infrastructure competitiveness. Only Mexico and Peru have shown any improvement.

While infrastructure investments would have to run at around 4% of GDP in order to provide the Latin American region a sustainable growth rate of 4.5% p.a., it is important to note that, given the limited investment profile in the past 20-30 years, infrastructure investments would have to be kept at a higher level for the next ten years in order to close the gap relative to more developed regions. According to a study by the United Nations Economic Commission for Latin America and the Caribbean, the region would have to deploy 7.9% of its GDP in the medium term to meet the existing infrastructure demand and keep up with the growth of East Asian countries.

Laying the plans to fix the problem

Recently, Latin American countries have begun to address restrained economic growth by setting out long-term strategic plans to solve the lack of adequate infrastructure. Historically, Chile has been quite successful in attracting private investments. Brazil, Mexico, Peru, and Colombia should all benefit from regulatory reforms implemented to boost private investments in infrastructure.

- **Brazil:** The Government is mindful of the massive economic constraint created by infrastructure deficiency and seems highly focused on stimulating investments with strong private participation. In this sense, it has been (1) straightening the regulatory framework, (2) tackling the limited availability of private funding, (3) streamlining the environmental licensing process and (4) launching an aggressive pipeline of infrastructure auctions, amounting to BRL 334 billion in investment opportunities, including toll roads, railroads, ports, airports and urban mobility. This sizeable pipeline alone represents one third of the gap, but is six times higher than the BRL 52 billion auctioned in the last ten years. Brazil has a 16% asset-to-GDP ratio (infrastructure stock)

and is a global underperformer with highly depreciated assets. The average infrastructure stock ratio globally stands at around 70%. In order to narrow this gap, USD 1 trillion in infrastructure investments would be required, half of which in transportation alone. According to the government, in the next five years, infrastructure investments in Brazil could shift from around 2.2% of GDP to twice as much, mostly driven by private investments.

- **Mexico:** The Mexican Infrastructure Plan for the 2013–2018 period proposes infrastructure expenditure in the vicinity of 5.5%–6.0% of GDP, representing a 33% increase from the 4.5% of GDP seen under the last administration. Total investment in roads, ports and transportation for the entire six-year term was forecast by the new administration to be approximately USD 50 billion. Toll roads expected to be built through private concessions are estimated to require some USD 10 billion.

However, the plan has had a slow kick-off, which we expect to improve in 2014 starting with a 32% increase in the Ministry of Communications and Transportation expenditure budget which currently stands at MXN 114 billion (some USD 9 billion). Out of 34 projects identified by SCT for toll roads, only one project (Siglo XXI highway) was tendered last year. Three mass transit train systems in addition to the New Mexico City Airport are still under study and the funding for these projects has yet to be outlined.

- **Chile:** According to the Chilean government, about USD 14 billion should be deployed in the infrastructure sector in the short to medium term. The largest investments are targeted towards airports, ports, hospitals and railroads, to be developed mostly by private players. After posting a decline in investment in 2001–2006, at 4.57% of GDP, Chile reversed this scenario and invested around 5.1% between 2008 and 2011. Since 2001, roughly 60% of expenditure has been carried out by the private sector, thanks to the country's strong regulatory framework.

- **Colombia:** The National Infrastructure Agency of Colombia has announced potential investments of around 3% of GDP in 2012–2017, more than doubling the investments in transportation infrastructure seen in the last ten years, which stood in

the vicinity of around 1%–1.5%. These should be deployed mostly in ports, highways and railroads. Accordingly, Colombia's overall investment in infrastructure could reach 9%–10% of GDP, from around 6% currently.

- **Peru:** The Peruvian Government has guided for an USD 88 billion investment in infrastructure over the next eight years, which we believe could represent around 4%–6% of GDP in any given year. Of the total investment, approximately 50% will be channeled to the transportation and communications sector. In the past ten years, Peru's investments in infrastructure have been modest, reaching just 2.5% of GDP. Therefore the government is expected to provide incentives to prevent the infrastructure gap from widening. The country holds one of the most liberalized and modern regulation frameworks in the region, allowing for non-solicited projects to be brought forward by the private sector. The two most recent emblematic projects in Lima (the Javier Prado urban highway and the Viaexpress Bypass) were both non-solicited projects which were carried out as concessions to the private sector.

Observing that Latin American governments are mindful of the urgency of further infrastructure investments, there is a plethora of interesting projects in the pipeline. Yet, the execution challenges cannot be understated as (1) some projects are still in the analysis stage and (2) the process for obtaining environmental licenses can be cumbersome. In this sense, public investments can take longer to materialize and in our view, an ultimate improvement in the countries' infrastructure will not come through greater public investments in the sector but rather by promoting a friendlier environment to private investments, similar to what happened in Chile and now is happening in Brazil and Colombia.

A well balanced mix of (1) regulatory risk, (2) execution risk and (3) project return is key to witness greater expenditure in infrastructure. Therefore, we attribute a greater probability to toll roads, urban mobility (subways, bus rapid transit and light train vehicles) and airport projects as potential sectors to experience material infrastructure improvements.

Connectivity: Data penetration and internet

Another important piece of the infrastructure puzzle is related to telecom and data networks, where higher levels of data penetration have been shown to boost productivity and income growth across economies. We characterize the past ten years as the "post-privatization" era for Latin American telecom markets. Most countries sold government control of their incumbent operators to private ownership in the 1990s. This process of transfer culminated with the privatization of the Telebras system in Brazil in 1998. The objective of privatization was to attract private capital to achieve universal access and improve the quality of telecom services to a degree that cash-strapped government operators could not.

Figure 2

Fixed line telephony subscriptions per 100 people, by region (in %, 1976–2012)

Source: Credit Suisse with data from The World Bank, ITU, and Credit Suisse estimates

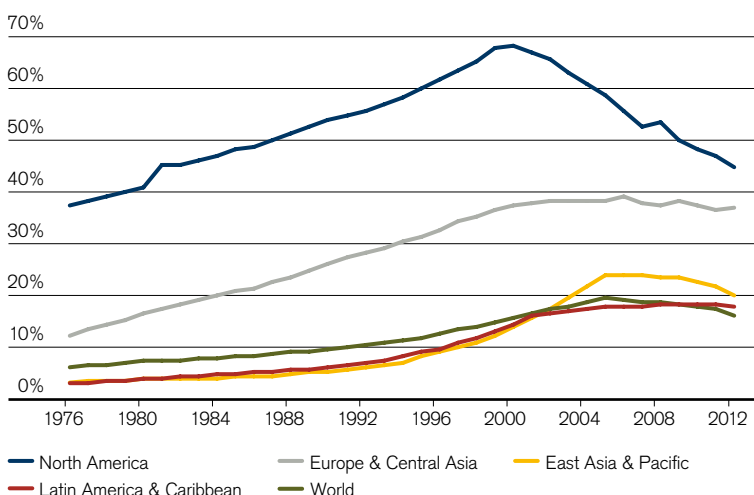


Figure 3

Mobile subscriptions per 100 people, by region (in %, 1990–2012)

Source: Credit Suisse with data from The World Bank, ITU, and Credit Suisse estimates

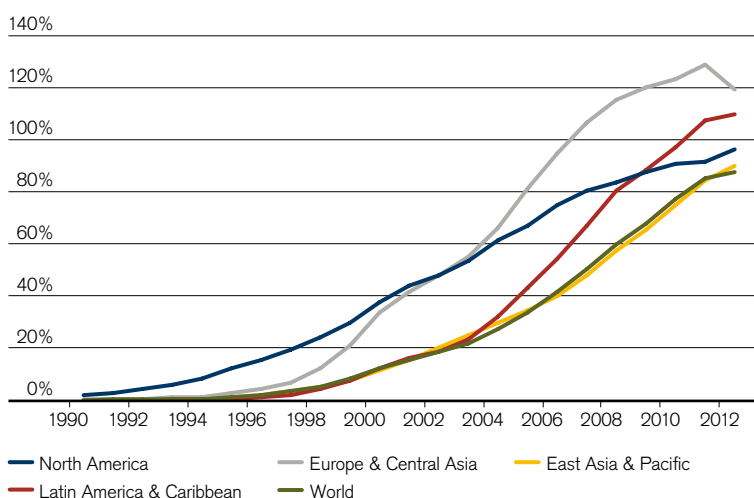


Figure 4

PCs in use per 100 people, by region (in %, 1996–2012)

Source: Credit Suisse with data from Euromonitor, The World Bank and Credit Suisse estimates

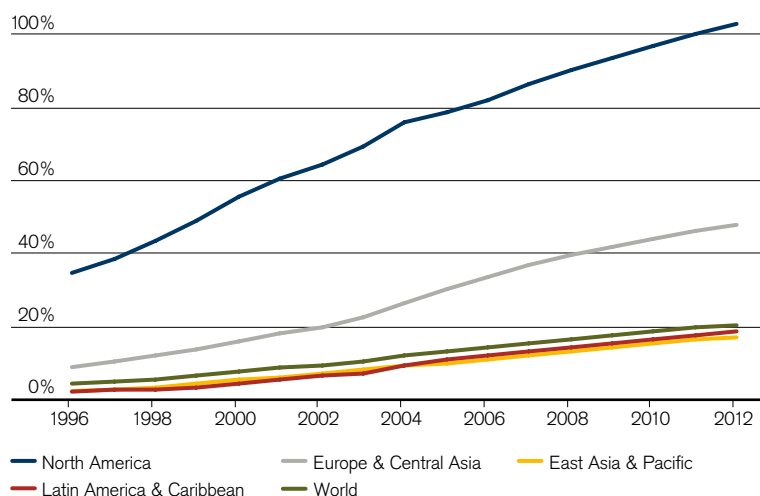
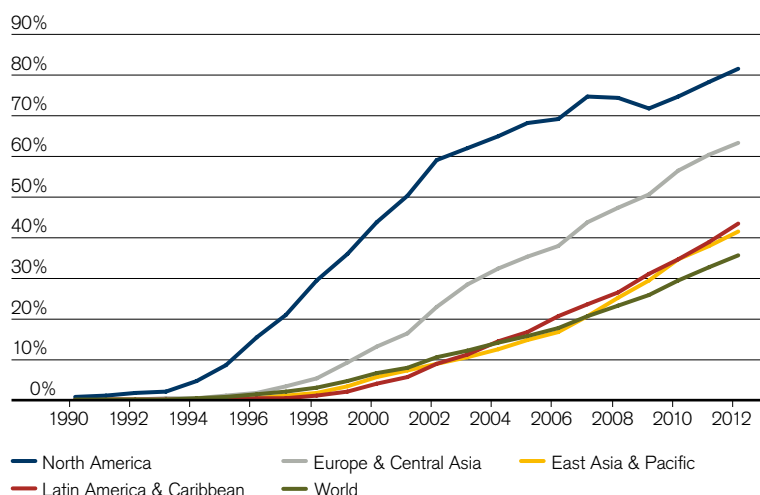


Figure 5

Internet users per 100 people, by region (in %, 1990–2012)

Source: Credit Suisse with data from The World Bank



We believe that the goal of universal access to voice services has largely been accomplished. Somewhat surprisingly, mobile telephony played the key role in meeting these goals. After an initial post-privatization boost to fixed telephony, the penetration of fixed voice lines has stagnated at only about 20% (lines/population) for the past five years (Figure 2). In more mature markets (e.g., Chile), fixed line penetration has actually started to decline (cord-cutting).

On the other hand, the universalization of mobile services has been surprisingly rapid over this period. We attribute the astonishing growth in wireless to increased competition, rising income levels (particularly in the middle class), declining handsets prices, calling party pays billing, and a proliferation of SIM-card only sales. In 2002, mobile penetration was only about 20% in the region (lines/population). It increased to an impressive level of 109% by the end of 2012 (Figure 3). Wireless penetration in Latin America now exceeds levels in the USA and has approached European levels.

The slowdown in new wireless subscribers over the past year suggests that the “heavy lifting” of voice universalization is coming to an end. In the future, operators are likely to shift attention to driving higher usage from existing subscribers (minutes of use) and converting prepaid subscribers to postpaid (more consistent revenue stream). But with market maturity ever nearer, we believe the priority for the next decade shifts to increasing access to internet / data services. This is likely to be the priority both from a policy perspective (government) and market opportunity point of view (telecom companies).

Challenge ahead: Internet and the development of data networks

In contrast to the rapid adoption of mobile telephony, Latin American countries still lag developed markets in rates of internet access and usage (Figures 4, 5, 7 and 8). In Latin America, 43% of the population tallied as internet users in 2012. This figure exceeded the world average of 36%, but was way behind the European and North American averages of 63% and 82% respectively. We consider this a negative externality of many consumers having “leapfrogged” fixed voice connections for wireless voice connections. Low fixed penetration, limited coverage of cable networks and lagging personal computer penetration (affordability) are other factors that have restrained internet penetration.

Private investment in telecom services has recovered over the past decade from the very depressed level of 2003, when the Argentinean default and Brazil's post-election financial crisis pulled investment down to a paltry USD 7 billion. Investment has averaged closer to USD 20 billion per year in most recent years (Figure 6). More than half of the USD 22 billion invested in the region in 2011 was directed towards Brazil, while seven of every ten dollars invested went to Brazil and Mexico.



Figure 6

Latin America and the Caribbean – investment in telecoms with private participation (current USD in billions, 1996–2011)

Source: Credit Suisse with data from The World Bank

40 bn USD

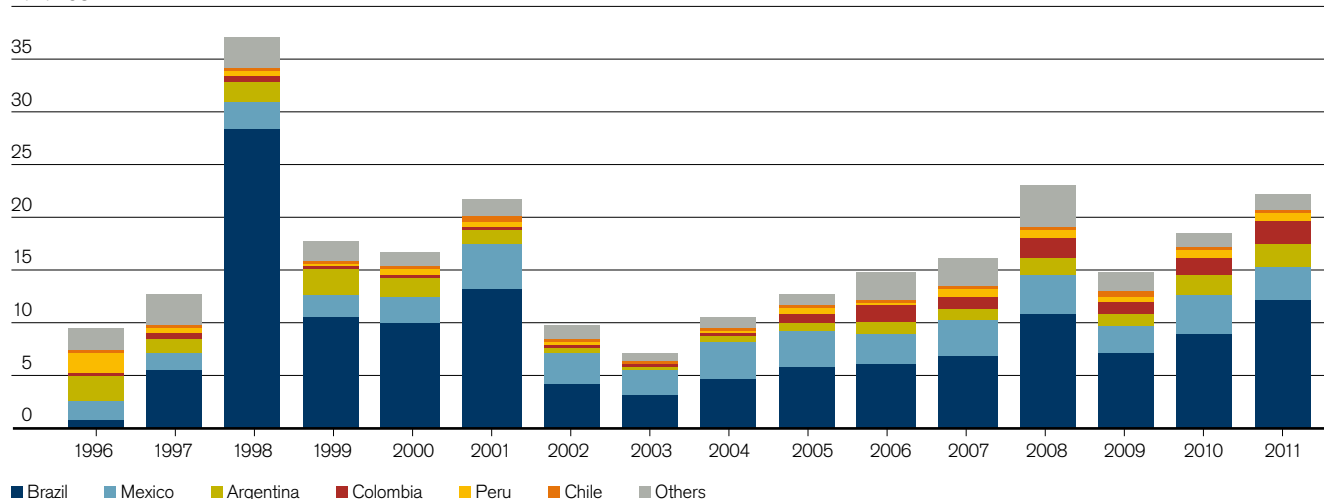


Figure 7

Mobile data and internet traffic by region (in petabytes per month, 2011–2017E)

Source: Credit Suisse with data from CISCO VNI

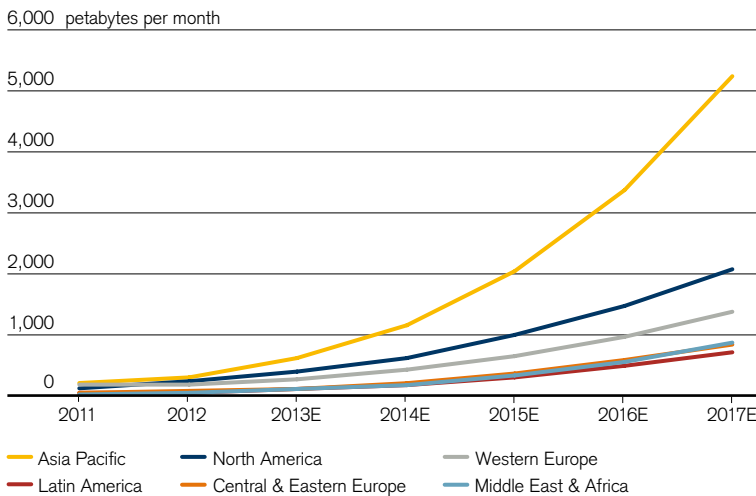
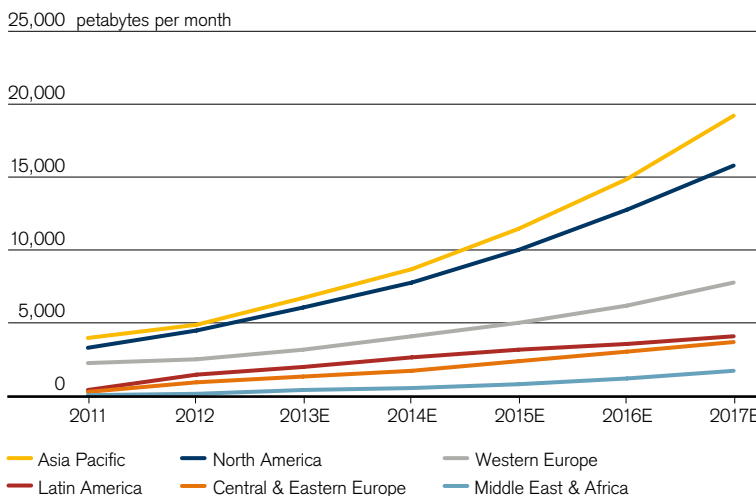


Figure 8

Global consumer internet video traffic by region (in petabytes per month, 2011–2017E)

Source: Credit Suisse with data from CISCO VNI



We believe current levels of investment are sufficient to maintain a gradual increase in the base of broadband access, but our estimates suggest Latin American internet penetration rates would still not catch up to developed market rates in the next five years at current investment levels. Government officials in several main Latin American markets have indicated that they consider current investment levels to be inadequate and would like to see more rapid digital inclusion via higher levels of broadband penetration.

As was the case with voice services, we believe most of the onus is likely to fall upon mobile technologies. We estimate 3G devices make up 20%–25% of the total mobile base in Latin America, a proportion that should continue to rise at a healthy rate due to the handset replacement cycle and lower handset price points.

At the same time, governments have moved to make the 4G spectrum available to clear the way for LTE services. These auctions have taken place in the higher frequency bands (generally 2.5 GHz) that are considered less attractive by the operators, but we have seen moves from several governments (such as Brazil and Chile) to make a more attractive spectrum available. An increasing supply of 4G services / spectrums / devices is likely to be an important driver of wireless data. One crucial difference between the investments in voice mobility over the past decade and the future investments in data mobility is the strain that data traffic places on the transport capacity of fixed networks (both long haul and backhaul).

At this point, we believe the jury is still out as to how governments can provide the necessary incentives for more rapid broadband deployment and associated investments in transport capacity. On the one hand, governments may leave market incentives in place and allow these investments to be made according to market forces with oversight from a semi-autonomous regulator. This would be consistent with the model that has succeeded for voice mobility over the past decade. In this case, the winners would be companies that have invested the most aggressively in high capacity data networks, both long haul and metropolitan fiber.

On the other hand, we have seen increasing signals that governments intend to take a more active role in pushing broadband penetration at a faster rate. Some of these signals include (1) the re-capitalization of Telebras in Brazil to increase data line and satellite capacity, (2) the Mexican government's plan to utilize a 700 MHz spectrum to operate an "open access" wireless network, as foreseen in the constitutional reform, and (3) the Argentinean government's unwillingness to award the 3G spectrum to existing private sector players in favor of retaining it for a government operator. These decisions, made on a country-by-country basis, are likely to have an important bearing on the market opportunity and returns on investment for existing private sector operators.



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