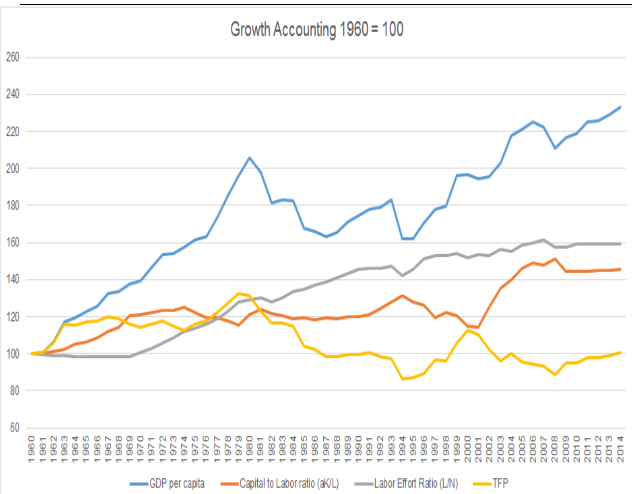
Perryne Desai, Subhash Ganga, Lior Bechar, Jonah Lowenfeld, Juan Gonzales Paris, Dheeraj Chinthalapelly

INTRODUCTION: "PETER PAN" TO POWERHOUSE: MEXICO, 2015-2040

Today, Mexico stands at a crossroads. Its history is littered with squandered opportunities amidst periods of rapid growth. Despite successful reforms instituted during the "Mexican Miracle" of 1945-1970 and an increase in trade and productivity following the North American Free Trade Agreement (NAFTA), Mexico has struggled to maintain high GDP growth.

When Mexico's president, Enrique Peña Nieto, came into office in 2012, he brought radical plan to reform Mexico's economy, political institutions, and key policies. His efforts aim at overcoming many of the obstacles that have plagued Mexico over the past 30 years -- and yet their success is anything but certain, especially as recent potential scandals threaten to hamper Peña Nieto's ability to execute his still incomplete reformist agenda. Nevertheless, 2015 represents a time of great optimism, and for this reason, we believe it is a good time to invest in Mexico.

TFP GROWTH IS KEY TO MEXICO'S ECONOMIC GROWTH



Countries like Mexico often have difficulty transitioning from input-driven growth to productivity-driven growth. For these countries, adding more capital and workers will have limited impact without parallel improvements in total factor of productivity (TFP).

Growth in the 1960s and 1970s was boosted by TFP growth during the Mexican Miracle -- specifically caused by reforms in education (late 1920s to 1940s), relaxation in import controls of capital goods and increased infrastructure spending.[1] During the crisis of 1982, however, low TFP became a drag on Mexico's economy, and since then, growth has largely been driven by increasing basic inputs.[2] Mexico does have an absolute TFP that is greater than that of China and India -- but TFP *growth* in Mexico has been negative for the last 30 years.[3] Mexico's growth potential is further limited due to low saving and investment rates. At about 23% of GDP, Mexico saves and invests more than the U.S. and other Latin American countries -- but given per capita income and growth, these levels are inadequate.

8 FACTORS TO INFLUENCE TFP GROWTH

1. Education.

Issue: Despite public spending on education near the OECD average, most of that spending (86%) is on teachers' salaries. The teachers' union has pushed for weak performance evaluations and obtained rich benefits for its members. Despite the levels of education spending and teacher

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[1] Oropeza Garcia, "México en el Desarrollo de la Revolución Industrial: Evaluaciones y Perspectivas" UNAM, 2013 [Mexico in the Development of the Industrial Revolution: Evaluations and Perspectives]

[2] Kehoe & Ruhl, "Why Have Economic Reforms in Mexico Not Generated Growth?", Federal Reserve Bank of Minneapolis Research Department Staff Report 453 (November 2010) [Hereinafter referred to as "Kehoe & Ruhl, Economic Reforms"]; "Mexico, A New Vision for Mexico 2042: Achieving Prosperity For All" (Loser et al., eds.) [Hereinafter referred to as "Vision for Mexico 2042"]

[3] *Id*; *See also* "A Tale of Two Mexicos: Growth and Prosperity in a Two-Speed Economy" (McKinsey Global Institute, March 2014) [Hereinafter referred to as "Two Mexicos"]

compensation, Mexico's students perform poorly on globally standardized tests. Additionally, only one in six Mexicans in the workforce has a university degree, exacerbating the problem.[4]

Reforms: Peña Nieto has introduced evaluations of teachers in order to improve standards. He has also created an autonomous regulator to monitor the teachers' unions and ensure compliance. He is also aiming to bring new teachers - 5,000 of them - into the country's school system. The unions are pushing back through raids and blockages, especially in the southern states.[5]

2. Labor.

Issue: Mexico's labor productivity is the worst among OECD countries[6]. In 2010, Mexico ranked 136[7] in the "Employing workers" category, which considers difficulty of hiring and firing, rigidity of employment and firing costs, among other factors. Firing an employee in Mexico after one year, for instance, costs 3 times more than in Chile and 8 times more than in Brazil. Until the 1970s, it was even legal to fire a woman for being pregnant. These and other outdated laws helped create one of the largest informal economies in Latin America and the World Bank estimates that less than 30% of Mexican workers pay into a pension, versus nearly 60% in Brazil and Chile.[8]

Reforms: In 2012, departing President Felipe Calderón signed a comprehensive reform of Mexico's Federal Labor Law (FLL), instituting more than 300 changes. The new law introduced hourly pay, trial periods of up to 6 months and a tighter cap on severance pay. These reforms could reduce informality and boost Mexico's economic growth.

3. Competitive Landscape.

Issue: Pemex (Mexican Petroleums) and CFE (Federal Electric Commission), both state-owned companies, are monopolies in the energy and electricity industries which breeded inefficient service and high input costs for businesses.[9] According to The Economist, electricity prices are 80% higher than those in the US.[10] In telecommunications, America Móvil (AMX) dominates the mobile-phone, fixed-line, and internet-service markets.[11] Mexicans face higher costs for these services, leading to a lower penetration rate than in the US. Mexico is also under-banked in comparison with other OECD economies -- a result of limited competition in the sector. [12] This kept many individuals and small firms out of the financial system, leading to an inefficient allocation of capital. Additionally, Mexico's legal framework is not strong enough to protect creditor rights.

Reform: First, Peña Nieto wants to establish new competition authorities, to minimize the damage caused by the monopolies and duopolies that have plagued the economy for years. Reform in the energy sector is of particular importance, where Peña Nieto has ended the monopolies of PEMEX and CFE, and foreign firms will finally be able to bid on drilling rights off the coast of Mexico -

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[4] OECD Economic Surveys, Mexico (January 2015) [Hereinafter referred to as "OECD Mexico"]; *See also* Vision for Mexico 2042

[5] *See* OECD Mexico *and* Vision for Mexico 2042

[6] www.oecd.org

[7] Doing Business 2010 Report

[8] *See* Vision for Mexico 2042

[9] Alvarez & Valencia, "Made in Mexico: Energy Reform and Manufacturing Growth", International Monetary Fund Working Paper (February 2015) [Hereinafter referred to as "Alvarez & Valencia, IMF Working Paper"]; *See also* Vision for Mexico 2042 *and* OECD Mexico

[10] Energy in North America, A New Mexican Revolution (The Economist, 11.15.2014)

[11] Mexico's Reforms, Keep it Up (The Economist, 8.9.2014)

[12] *See* Kehoe & Ruhl, Economic Reforms; OECD Mexico *and* Vision for Mexico 2042

- Total, Shell, and SierraOil are among the firms getting ready to invest.[13] In telecommunications and broadcasting, legislation is being prepared which could add massive penetration for mobile and landline connections by breaking up the current conglomerates and adding competitive bandwidth. Carlos Slim, the billionaire who controls America Móvil, has begun to sell parts of his company to avoid asymmetric regulation.[14] On banking, Peña Nieto has pushed for increased competitiveness and development banks, both of which should help the economy grow through cheaper credit and additional safety. Reforms will improve the legal framework for collateral posting and execution, efficient resolution procedures, and a larger scope to lend to Small & Medium Enterprises (SMEs) was given to the Government Development Bank.[15]

4. Informality in the business environment.

Issue: The Peter Pan System, in which firms prefer to stay small given welfare-esque advantages, has been the rule in Mexico: 95.5% of the country's businesses have 10 or fewer workers, as compared with 80-90% of the businesses in Argentina, Brazil and Chile. This has impacted labor markets, productivity and resource allocation: jobs in small, informal and "illegal" firms (whose workers get no health or pension benefits) rose much faster than in big and legal firms; according to McKinsey, productivity decreased 6.5% in 2013; and out of 5 million SMEs only 900 thousand can obtain credit.[16]

Reform: A proposed fiscal reform should help to bring the SMEs into the formal economy; credit guarantees for SMEs will increase financing access, and enforcing e-voicing requirements will bring SMEs out from the shadows. Also, overall competitiveness will be enhanced by the weakening of monopolies in key industries.[17]

5. Trade.

Issue: Mexico's participation in NAFTA exacerbated its dependency on the US market for its exports (80% of all Mexico's exports). Imported products have shifted from the US to China and East Asia – up from 0.85% to 16.6%. Despite signing 12 separate free trade agreements, Mexico has not been able to shake its dependency on the US as a market for its manufacturing exports.[18]

Reform: Mexico's economy has relied less on the United States in recent years, and two moves in 2014 are likely to reinforce this positive trend: Mexico signed an FTA with Panama that has yet to be implemented, and, together with Chile, Colombia and Peru, signed the Pacific Alliance, a multilateral agreement intended to coordinate trade with Asia. That agreement may also lead to a Pacific Alliance visa that would help residents cross between the four countries.[19]

6. Infrastructure.

Issue: Mexico's current infrastructure does not meet its needs, ranking 69/133 in WEF's infrastructure competitiveness index and 49/57 in IMD's World Competitiveness Index. The level of investment in infrastructure still lags behind other economies such as India and China. In

[13] *See* Alvarez & Valencia, IMF Working Paper; Weighing up partners for Mexico Oil Tenders (FT, 3.13.2015)
[14] Telecoms in Mexico, Slim's Chances (The Economist, 3.1.2014)
[15] *See* Two Mexicos
[16] Small Business in Mexico, The Peter Pan Syndrome (The Economist, 5.17.2014)
[17] *Id*
[18] Villarreal "Mexico's Free Trade Agreements" (Congressional Research service, 7.3.2012)
[19] *Id*

transportation, the problem goes beyond the level of investment where the planning, preparation, legal framework and procurement processes are outdated, and the processes are frequently politicized and subject to corruption.[20]

Reform: To increase TFP, significant increases in spending are necessary -- and in process. Calderon's government spent $243 bln on roughly 300 infrastructure projects. Peña Nieto aims to deploy $596 bln in infrastructure spending by the end of 2018. The additional spending promised has yet to translate into dollars spent -- the finance minister has been micromanaging projects -- but 743 specific projects have been proposed spanning all sectors of the economy, including energy, housing, telecoms and water. Unfortunately, this reform is not without its issues.

7. Crime & Rule of Law.

Issue: Although the legal framework is clear and consistent, Mexico has difficulties with law enforcement. Courts are known to be inefficient, which makes contract enforcement and insolvency procedures problematic in Mexico. Improving criminal justice is crucial to improve personal safety, which is a major challenge for well-being. Mexico lags in due process of law, civil justice, and non-discriminatory treatment under the law, and 95% of all crimes – and 80% of homicides -- are either not solved or punished. Such poor performance has further eroded the credibility of Mexico's legal system.[21]

Reform: New small claims courts have made it easier to enforce contracts easier. A unified national code of criminal procedure was published in March 2014, an important step to support the transition to the new system. Judicial reforms have been extended to the civil and commercial domains. Mexico has also added an additional 41,000 officers to its police force.[22]

8. Governance and Corruption.

Issue: Although the Mexican Government is considered to be relatively transparent, it is still perceived as corrupt at all levels. Corruption –including non-compliance with tax laws and regulatory obligations-- is tied to organized crime, which engages in drug smuggling and human trafficking.[23] In 2014, 43 students were kidnapped by municipal police and murdered by drug traffickers.[24] Even Peña Nieto is not immune: he, his wife and his finance minister have been accused of buying houses using credit from affiliates of a building firm that has benefited from government contracts. The reporter who broke the news is now filing suit for unlawful termination - she was terminated along with her staff shortly after the piece broke – a clear violation of freedom of expression.[25]

Reform: A new anti-corruption authority is being set up to prevent, investigate and impose administrative sanctions for graft-related offenses. The authority will also work closely with prosecutors on criminal cases and can recommend precautionary measures such as pre-trial detention and the freezing of assets. Local lawmakers will also be allowed to serve consecutive terms. These new rules should strengthen incentives for local governments to provide higher quality services, and are complemented by laws requiring greater transparency of government finances.[26]

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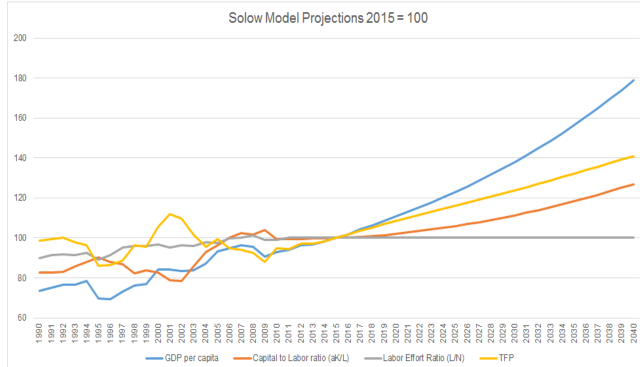
[20] *See* Vision for Mexico 2042
[21] *See* Vision for Mexico 2042
[22] *Id*; *See also* Fighting Crime in Mexico, The Feds Ride Out (The Economist, 8.23.2014)
[23] *See* OECD Mexico
[24] Fighting Crime in Mexico, The Feds Ride Out (The Economist, 8.23.2014)
[25] Corruption in Mexico, The Right Place To Start (The Economist, 2.7.2015)
[26] *See* OECD Mexico

USING THE SOLOW MODEL TO ASSESS THE IMPACT OF PROPOSED REFORMS



To estimate the impact of reforms on institutions, we conducted a regression of TFP growth[27] on the Rule of Law Index[28] and the Distance to Frontier[29] on 26 upper-middle income countries. Based on the size and delay of the impact of reforms that we expect, we estimated long-run TFP growth for Mexico to be around 1%. We also considered a different value of a, since historically the share of income paid to labor has been low compared to other countries. Our conclusion: if these reforms could be implemented, GDP could grow by 80% through 2040.

Solow Model Assumptions
TFP Growth: Based on cross-sectional regression of TFP growth on the Rule of Law Index growth and the Distance to Frontier growth based on 26 upper middle income countries (Albania, Algeria, Angola, Argentina, Azerbaijan, Brazil, Bulgaria, China, Colombia, Costa Rica, Dominican Republic, Ecuador, Hungary, Iran, Jamaica, Jordan, Kazakhstan, Malaysia, Mexico, Peru, Romania, South Africa, Thailand, Tunisia, Turkey and Venezuela) over the 2007-2013 period. The fitted equation is $TFP_{growth,i,t} = \delta_t + 0.148\, DTF_{growth,i,t} + 0.144\, RLI_{growth,i,t}$ For country i and period t, where δ_t is used as a dummy variable to control for level of growth per year. TFP growth is then estimated over a 1% long run growth plus the effect of improvement in business, given by the regression.
Savings rate: 22%, historic level based on World Bank data.
Depreciation rate: 7% historic level based on World Bank data.
Labor force: Population growth based on UN projections and constant labor participation.
Share of Labor income: Based on OECD data, we estimate α = 0.527 since Mexico has shown significantly lower share of labor income historically.

CONCLUSION

Now is a good time to build a business in Mexico. As we have suggested, the economy's low productivity was affected by, among other factors, a weak educational system, poor labor force, uncompetitive business landscape, regulatory compounding of a Peter Pan syndrome, poor investment in infrastructure, weak law enforcement, corruption and dependency on the U.S. market for Mexico's exports. However, the government has initiated a number of reforms which we believe could provide the impetus to a turnaround story in Mexico.

There is no guarantee that these reforms will be successfully implemented in the near future. In fact, past Mexican governments have time after time failed to execute economic and judicial reforms, in large measure due to the country's entrenched political elite. However, we believe that the current administration's efforts to substantially reform the country's institutions and advance the economy are sincere and thorough. Even if only some of these reforms are implemented, the Mexican economy's productivity will still improve significantly as a result.

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[27] *See* The Conference Board Total Economy Database™, January 2014 *available at* http://www.conference-board.org/data/economydatabase/

[28] Center of Financial Stability and The Global Competitiveness Report, World Economic Forum

[29] Doing Business Group, The World Bank