The Conquest of Mexican Inflation

From the 1970s through the mid-1990s, Mexico lurched from one crisis to another, its monetary and fiscal framework a source of instability that impeded long-term growth. By adopting best practices in central banking in the latter 1990s—granting the Banco de México independence and mandating price stability as the central bank's primary goal—Mexico began installing a framework that has proven remarkably successful.

Additional fiscal and financial system reforms of the 1990s and 2000s have eliminated macroeconomic policy as a source of instability, although more remains to be done to bolster economic development. Still, Mexico's experience provides an instructive view of how a nation, by providing independence and a clear mandate to its central bank, can create relative macroeconomic stability and enhance economic opportunity.

A Record of Crisis and Instability

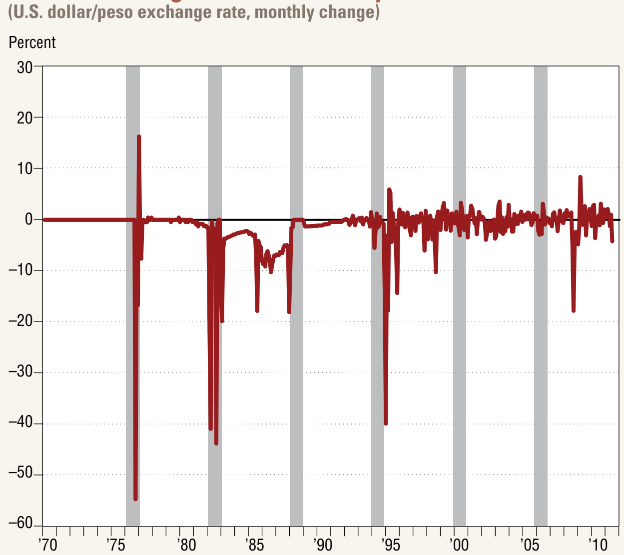
The monthly change in the nominal exchange rate of the Mexican peso against the U.S. dollar since 1970 is plotted in Chart 1. Big swings correspond to periods of financial turbulence. Large downward spikes, in particular, indicate massive peso devaluations; shaded bars denote years of Mexican presidential elections.

The first big devaluation occurred during the 1976 election year amid excessive inflation that ended Mexico's 22-year defense of its fixed exchange rate. Profligate spending and money creation resumed as the 1982 election year approached. Again, Mexico couldn't maintain its fixed exchange rate, and making matters worse, it couldn't meet its debt obligations.

The subsequent default triggered the Latin American debt crisis. Although the 1988 election does not stand out as a crisis period quite like 1982, it was preceded by at least three years of near-continuous financial turmoil, caused by a series of shocks to the price of oil, which in the early 1980s accounted for roughly 70 percent of the nation's exports.

Mexico subsequently improved its policy record sufficiently to regain access to financial markets, leading to anticipation that the 1994 election year would be uneventful. But as the election approached, the government's resolve to combat inflation and contain spending weakened yet again, and short-term debt piled up. The peso was devalued sharply in December 1994, and the recently privatized banking sector entered a prolonged crisis, setting back financial system development for more than a decade. Painful as it was, the so-called Tequila Crisis of 1994–95 finally prompted officials to commit once (and hopefully,

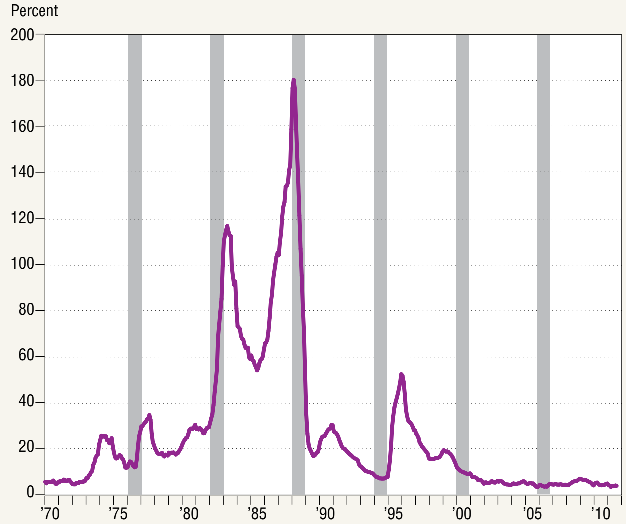
Chart 1
Elections Brought Peso Instability
(U.S. dollar/peso exchange rate, monthly change)



NOTE: Shaded bars denote election years.

SOURCES: Banco de México; authors' calculations.

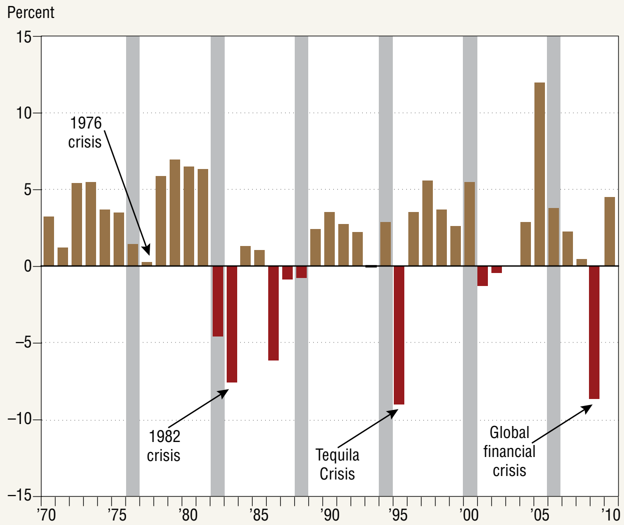
Chart 2
Mexico's Inflation Peaked in 1988
(12-month inflation rate)



Note: Shaded bars denote election years.

SOURCE: Instituto Nacional de Estadística y Geografía.

Chart 3
Crises Lower Mexico's Output
(Real GDP per capita growth, adjusted for purchasing power parity)



NOTE: Shaded bars denote election years.

SOURCES: Alan Heston, Robert Summers and Bettina Aten, Penn World Table Version 7.0, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, May 2011; authors' calculations.

for all) to macroeconomic discipline.

The peso has since freely floated, remaining within reasonable bounds except during the Asian crisis (1997–98) and the more recent global financial crisis. In 2000, for the first time in more than 70 years, the country underwent a political transition involving a changing of the party in power, while at the same time the economy was hit by a U.S. manufacturing recession. Yet, there was no crisis. And in 2006, despite much political uncertainty and social unrest, once again, there was no crisis.

Mexico's periodic financial turbulence has been accompanied by bouts of inflation, shown in Chart 2, from the 1970s through the 1990s, with shaded bars again signifying election years.

Inflation peaked at 180 percent in February 1988, not quite hyperinflation, but still high enough to do real economic damage. The spike associated with the Tequila Crisis (rates of around 50 percent in late 1995 and early 1996) has been followed by a steady decline. In recent years, inflation has been comparable to—or a little bit better than—what was experienced in the early 1970s. Inflation now approaches the rates found in developed countries.

The crises were accompanied by sharply declining output. While 1976 represented but a brief pause along the country's postwar economic miracle, the 1982 crisis brought the miracle period to a complete halt (*Chart 3*). It triggered the deepest recession since the Great Depression and was followed by a decade of economic stagnation. The impact of the Tequila Crisis was somewhat shorter-lived; nevertheless, in 1995 real gross domestic product (GDP) per capita fell by almost 10 percent, a postwar record.

Roots of Reform

The first major innovation in Mexico's macroeconomic policy framework roughly coincided with the Tequila Crisis. Economists had begun reaching a consensus about what constituted best practices in central banking. First, there was growing agreement that independence from short-term political pressure was vital for central bankers to deliver price stability. Second, there was an emerging belief that inflation targeting was the best way for independent central banks to conduct policy and to be held accountable for its outcomes. The Reserve Bank of New Zealand pioneered inflation targeting as a monetary policy framework in the early 1990s, and in the two decades since then, it has been adopted by numerous central banks in both developed and emerging-market economies.

The scatter plot of data shown in Chart 4, from a widely cited paper by Alberto Alesina and Lawrence H. Summers,[1] helped sway many governments to allow greater freedom for monetary policy makers. The chart shows the relationship between a measure of central bank independence on the horizontal axis and long-run inflation outcomes on the vertical axis for a group of developed countries over three decades. Countries with more-independent central banks (on a scale of 1 to 5, with 5 signifying the most independent) tended to have lower inflation over the long run, the data indicated. Furthermore, Alesina and Summers showed that these better inflation outcomes came at no apparent cost in terms of real economic activity. The original Alesina and Summers finding has since been replicated by many researchers.

Mexico learned the importance of central bank independence in a particularly painful way. Until 1982, the central bank operated as a state-owned corporation—separately, but without complete independence from the federal government. During the 1982 financial crisis, then-President José López Portillo changed the Banco de México's charter at the same time he nationalized the banking system and devalued the peso. Portillo moved the central bank into the Treasury Ministry, placing it under the control of the executive branch.

Consequently, during the 1980s, the central bank became a powerful tool to manipulate the economy for short-term political ends. Mexican governments freely printed money to finance federal deficits and compelled the central bank to lend the government money to finance populist programs. Predictably, the results were a stagnation of private credit and triple-digit inflation.

Mexico amended its constitution on Aug. 20, 1993; Article 28 made the central bank independent, effective Jan. 1, 1994. Price stability became the bank's primary objective. Article 28's wording is a particularly strong statement of independence, especially given the Banco de México's history.

Chart 4
Independent Central Banks Deliver Better Inflation Outcomes
(Average annual inflation rate, 1955–88)

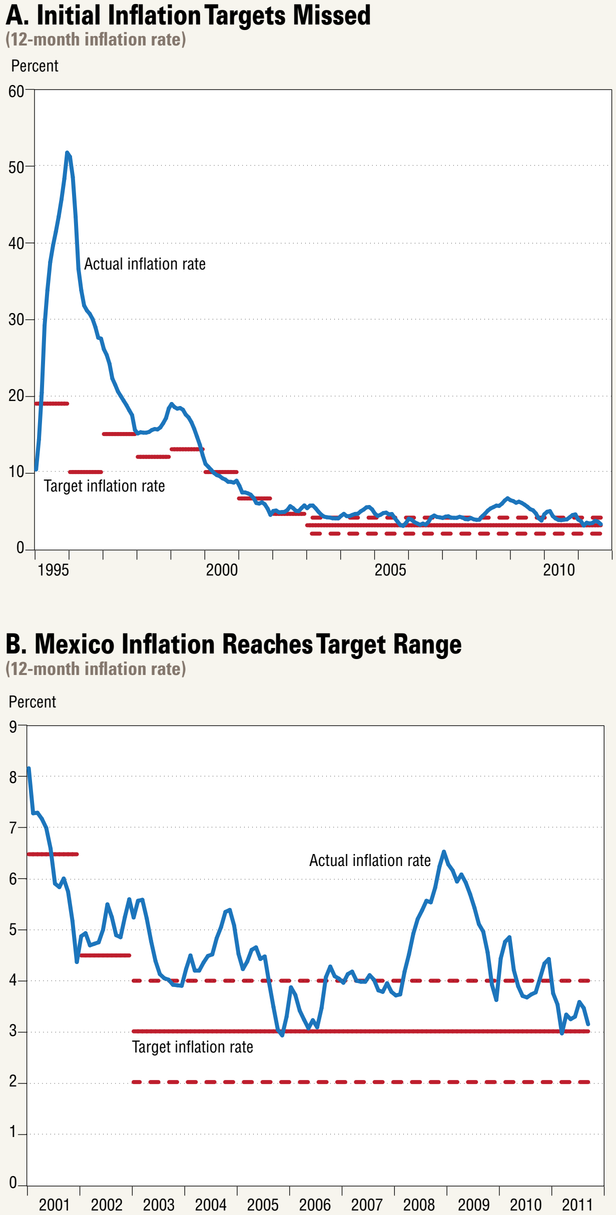
SOURCE: "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence," by Alberto Alesina and Lawrence H. Summers, *Journal of Money, Credit and Banking*, vol. 25, no. 2, 1993, pp. 151–62.

Article 28 of the Constitution of the Mexican United States

"El Estado tendrá un banco central que será autónomo en el ejercicio de sus funciones y en su administración. Su objetivo prioritario será procurar la estabilidad del poder adquisitivo de la moneda nacional, fortaleciendo con ello la rectoría del desarrollo nacional que corresponde al Estado. Ninguna autoridad podrá ordenar al banco conceder financiamiento."

"The State shall have a central bank, which shall be autonomous in exercising its function and management. Its main goal will be to foster the stability of the national currency's purchasing power, therefore strengthening the State's role in guiding the country's development. No authority shall order the central bank to grant financing."

Chart 5
Monetary Policy Evolves



SOURCES: Instituto Nacional de Estadística y Geografía; Banco de México.

The creation of money is explicitly separated from other tasks of state, and the wording eliminates the possibility of the government forcing the central bank to provide it financing. Although the Mexican president appoints the central bank board (with legislative approval), board members have staggered terms to prevent the president from replacing all members at the same time.

Thus, the Banco de México enjoys a level of independence superior to that of most other central banks. Still, the first few years of central bank independence were extremely difficult.

Inflation Targeting—the Early Years

The central bank initially faced widespread uncertainty about its commitment and ability to achieve financial and price stability. Within a year of receiving independence, the Banco de México confronted the Tequila Crisis: a twin balance-of-payments and financial crisis. That tumult prompted a peso devaluation, causing inflation to spike to 52 percent in 1995 from 7 percent the year before, badly damaging central bank credibility. Policymakers missed the bank's first two inflation targets, in 1995 and 1996, by wide margins. An initial inflation target of 19 percent in 1995 was increased to 42 percent as the peso became unstable.

The policy, however, could not be described as full inflation targeting. The initial strategy was to adopt a monetary growth target—specifically, a growth ceiling on net domestic credit. Since the monetary policy objective limited the expansion of net domestic credit and aimed for an increase in international reserves, it was not considered a true inflation-targeting regime. The central bank instead established borrowed reserves as its instrument of monetary policy, allowing markets to determine both the exchange rate and the interest rate.

Actual inflation since 1995, along with the inflation target, is depicted in Chart 5A. The central bank essentially met its 15 percent target in 1997 (official inflation was 15.5 percent) and in 1998 began a gradual transition to full inflation targeting and an emphasis on policy transparency. The central bank badly missed the 1998 target of 12 percent; inflation was 18.4 percent amid peso weakness caused by contagion from the Asian and Russian crises of 1997–98.

In 1999, the Banco de México announced a series of inflation targets, with the stated goal of reducing inflation in Mexico to that of its primary trading partners by 2003. In 2000, the central bank began publishing its *Quarterly Inflation Reports* (*Informe Sobre la Inflación*), which detail the inflation environment, the conduct of monetary policy and the balance of risks for future inflation.[2] The introduction of intermediate-term inflation targets and increased information for the public were important steps toward the adoption of full inflation targeting.

Full Inflation Targeting

Mexico installed the necessary components for full-fledged inflation targeting by 2001. The Banco de México dropped the other two elements of its monetary policy strategy—net domestic credit and international reserves—leaving an inflation target as the single, explicit monetary policy goal. The policy framework included a floating exchange rate, an independent monetary authority with price stability as its main policy goal, the absence of other nominal policy strategy anchors and implementation of monetary policy within a transparent framework in which communication with the public became key. Since 2003, the Banco de México has maintained an inflation target of 3 percent, with a tolerance range of plus or minus 1 percentage point.

The central bank's performance vis-à-vis the inflation target since fully implementing inflation targeting is highlighted in Chart 5B. Concentrating on the period since the formal adoption of full inflation targeting, we see that the Banco de México has done an impressive job at delivering on its price stability mandate. Admittedly, inflation has been closer to the upper limit of its targeted range than to the middle, and there have been some notable misses, although these have been mainly associated with swings in relatively volatile food and energy prices.[3] Most recently, inflation peaked at more than 6 percent toward the end of 2008 but has since been on a steady downward trajectory, lately running at around 3.25 to 3.5 percent.

A formal comparison of some key statistics before and after central bank independence confirms what should be apparent from these charts—the average level and volatility of inflation have significantly declined since the Banco de México's independence (*Table 1*).

Complementary Fiscal Reforms

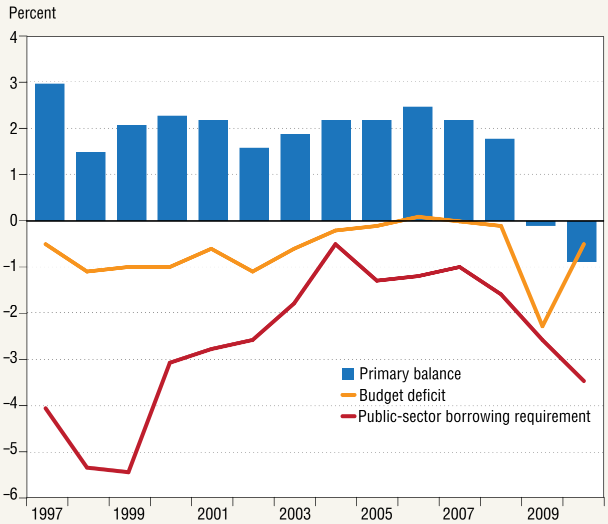
Most bouts of high inflation involve pressure from fiscal authorities to finance chronic budget deficits or monetize the national debt. Central bank independence makes it easier for central banks to resist this pressure if it conflicts with their mandate for price stability. It would be even better if fiscal authorities could be somehow induced to maintain a sustainable profile for public finances so that the pressure to monetize deficits—printing extra money to "pay" what the government owes—would not arise in the first place. To this end, a second set of macroeconomic policy reforms in Mexico may further enhance the ability of the Banco de México to deliver price stability.

Table 1
Central Bank Independence Aids Price Stability in Mexico

Period	Average annualized monthly inflation (percent)	Standard deviation
Prior to independence (1970–94)	43.3	42.9
Since independence (1994–current)	11.1	15.5
Since inflation targeting (2001–current)	4.4	2.4
1995–2000	22.1	21.0

SOURCES: Instituto Nacional de Estadística y Geografía; authors' calculations.

Chart 6
Fiscal Policy Remains Disciplined
(Deficit as a share of GDP)



SOURCE: Secretaría de Hacienda y Crédito Público.

Four major pieces of legislation have been enacted in the past five years that significantly strengthened Mexico's fiscal policy framework—the most important is the Budget and Fiscal Responsibility Law of 2006, which includes among its provisions a balanced-budget rule.[4]

This rule applies to the traditional budget deficit; therefore, it excludes some off-budget operations such as long-term development projects. There is also an exception allowing the federal government to run a deficit during exigent circumstances. If a budget deficit is proposed, the legislative branch must provide explicit justification for the shortfall and a plan for returning to a zero balance. If, over the course of a fiscal year, expected revenue doesn't meet projections, the government must cut expenditures to balance the budget. Unfortunately, the balanced budget is done on a year-by-year basis and lacks both a broader, medium-term outlook of three to five years and a longer-term estimate of 20 to 30 years. Still, the balanced-budget rule has kept public debt relatively low and helped maintain fiscal policy discipline.

Figuring out the true state of Mexico's public finances is complicated by the important role that oil—and the national oil company, Pemex—plays in the national economy and the government's finances. Oil-related revenue accounts for 30–40 percent of total revenue, so oil-price changes can significantly affect the government's fiscal position. Therefore, the most important factor in the budget is how expected oil revenue is included in the budget calculation.

The formula used to calculate anticipated oil prices over the next fiscal year is based on past and future oil prices.[5] Then, that expected oil price is used in budget projections and for oil revenue stabilization funds.

Even without the boon to public finances from recent years' oil-price run-up, Mexico made real progress getting on a sounder financial footing. Along with the official budget deficit, Mexico's government routinely reports two additional measures of budget balance (*Chart 6*). The primary balance is the budget deficit less net interest payments. The other measure, the public-sector borrowing requirement, is the broadest measure and includes the government's long-term investment projects and off-balance-sheet spending. The off-balance-sheet spending includes the net costs of PIDIREGAS (Mexican public–private partnerships), inflation adjustments to indexed bonds, financing costs of the programs for bank restructuring and debt support, and financial commitments to development banks.

Until the onset of the recent financial crisis, Mexico ran primary surpluses, something that the U.S. has not managed for more than a decade. Indeed, the fiscal capacity created by the recent reforms created a new phenomenon in Mexico's fiscal policy—the ability to set countercyclical policy. During earlier downturns, the country couldn't implement any type of stimulus and, instead, had to cut spending. During the latest recession, Mexico passed a stimulus package, albeit a modest one. Still, even in the face of a 6 percent decline in output, the country's budget deficit (as measured by the financial balance) remained below 3 percent of GDP (while the broader measure came in at 3.5 percent of GDP in 2010). Furthermore, the country's debt has remained relatively stable at below 30 percent of GDP through the recent crisis, in marked contrast to the U.S. and other advanced countries that have debt levels approaching or exceeding 100 percent of GDP.

Reward Seen in Risk Premium

Perhaps the most striking evidence of Mexico's macroeconomic policy discipline can be found in the cost of public-sector financing. The interest rate spread, or difference, between the cost of Mexican government debt and U.S. Treasuries is shown in Chart 7. Both the U.S. financial crisis in 2008–09 and the more recent problems with European sovereign debt boosted interest rate spreads as measured in basis points (100 basis points equal 1 percentage point). Even though the Asian crisis was less intense than the current tumult, it affected Mexico more because it occurred at the beginning of Mexico's policy shift.

Overall, Mexico is regarded as a safe haven among emerging markets. Furthermore, compared with all but Germany, France and the United Kingdom, Mexico's interest rate premium is lower than that of European countries. This is a striking example of the rewards of maintaining policy discipline and a jarring reminder of the perils of fiscal profligacy.

Improved Financial Framework

Mexico has made very real and substantive progress in improving its macroeconomic policy framework in recent decades. Major innovations occurred in the middle 1990s, when the government codified the independence of the Banco de México in the constitution, with the bank going on to adopt a best-practices approach to monetary policy, pursuing its mandate for price stability through a strategy of inflation targeting.

More recently, the government passed a series of laws to improve fiscal policy, including a balanced-budget rule. Largely because of these reforms, Mexico fared surprisingly well in the recent global financial crisis. Indeed, Mexico is now viewed as a better credit risk than many peripheral European countries. But much more remains to be done. Monetary and fiscal policy are no longer the impediments to growth and development that they once were.

The broader challenges confronting Mexico are well known. Among Organization for Economic Cooperation and Development (OECD) countries, Mexico typically ranks close to the bottom, if not dead last, on various metrics of educational attainment. There are significant regulatory barriers to entry into key network industries such as telecommunications and electricity, and restrictions limit foreign direct investment in some sectors. Competition and investment are curtailed by a lack of legal certainty. And Pemex has presided over a decline in oil production in recent years, due in no small part to poor incentives. These fac-

Chart 7
Improved Policy Narrows Interest Premium
(Interest rate spread)

SOURCE: CTRB JP Morgan Chase Emerging Markets.

tors manifest themselves in a persistent gap in labor productivity relative to other OECD members. For Mexico to bridge that gap, it will need to be as creative in embracing structural change as it has been in embracing monetary and fiscal reforms.

—Mark Wynne and Edward C. Skelton

Notes

[1] "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence," by Alberto Alesina and Lawrence H. Summers, *Journal of Money, Credit and Banking*, vol. 25, no. 2, 1993, pp. 151–62.

[2] *Quarterly Inflation Reports* can be found at www.banxico.org.mx/publicaciones-y-discursos/publicaciones/informes-periodicos/trimestral-inflacion/index.html.

[3] Core inflation in Mexico sometimes diverges dramatically from headline inflation, due to the importance of food prices to the consumer price index (CPI). Food and beverages account for almost 20 percent of the Mexican CPI, compared with about 8 percent of the U.S. CPI. Mexican economists sometimes refer to the "pico de gallo" effect on inflation, whereby movements in the prices of onions and tomatoes can disproportionately affect headline inflation.

[4] The other key pieces of legislation are the Integral Fiscal Reform, approved in September 2007, which had among its many objectives the improvement of tax collection and was expected to raise the collection of non-oil tax receipts by 2.1 percent of GDP over 2008–12; the 2007 New ISSTE Law, intended to create a more-sustainable public pension system over the long term by transitioning from a pay-as-you-go system to a system of individual savings accounts; and finally, the government accounting law, passed in 2008, which brought public-sector accounting standards more in line with generally accepted accounting principles.

[5] Specifically, the formula gives a weight of 25 percent to the average oil price for the past 10 years, a weight of 25 percent to the average futures price for the next three years and a weight of 50 percent for the futures prices for the next few months adjusted by a factor of 0.86.