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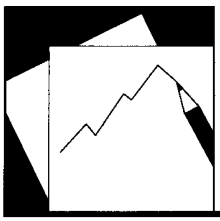

IMF Working Paper

Central Banking in Latin America: From the Gold Standard to the Golden Years

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INTERNATIONAL MONETARY FUND

 WP/15/60

IMF Working Paper

Monetary and Capital Markets Department

Central Banking in Latin America: From the Gold Standard to the Golden Years

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Authorized for distribution by Karl Habermeier

March 2015

Abstract

This paper provides a brief historical journey of central banking in Latin America to shed light on the debate about monetary policy in the post-global financial crisis period. The paper distinguishes three periods in Latin America's central bank history: the early years, when central banks endorsed the gold standard and coped with the collapse of this monetary system; a second period, in which central banks turned into development banks under the aegis of governments at the expense of increasing inflation; and the "golden years," when central banks succeeded in preserving price stability in an environment of political independence. The paper concludes by cautioning against overburdening central banks in Latin America with multiple mandates as this could end up undermining their hard-won monetary policy credibility.

JEL Classification Numbers: E42, E52, E58, N26.

Keywords: Latin America, central banks, inflation.

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[1]This paper benefited from comments by seminar participants at Princeton University, the IMF's Western Hemisphere and Monetary and Capital Markets departments and, from Ashraf Khan, Arto Kovanen, Nicolas Magud, Mauricio Villafuerte and, in particular, Miguel Savastano. Errors and omissions are my own responsibility.

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I. INTRODUCTION

The global financial crisis of 2008 and its aftermath have ignited a debate about a new era of central banking.[2] The general perception is that, in the run-up to the crisis, financial vulnerabilities grew unchecked as central banks were focused on preserving price stability—while regulators were regulating financial institutions from an idiosyncratic perspective. To prevent similar crises from erupting in the future, several advanced countries, including the United States (U.S.), the United Kingdom (U.K), and others in the European Union, have introduced major legal reforms that assign central banks a more active role in preserving financial stability. In addition, in the aftermath of the financial crisis, there is a sense of dissatisfaction with the tepid recovery and the high level of unemployment that still prevails in most advanced economies. In response, one of the alternatives considered has been to expand the focus of monetary policy to include growth and employment to central banks mandates as *de facto* has been happening since 2009 through the use of unconventional monetary instruments. Keeping some of the unconventional measures in the monetary policy toolkit in the "new normal" has also been discussed.

While this discussion is ongoing primarily in advanced economies, should we expect it to spread to Latin America? As discussed in this paper, central banks in Latin America evolved over time not only in response to changes in the international economic order, but also because of the influence of external academic debates—often brought to the region by visiting monetary policy experts. This time may not be different as Latin America is now fully integrated with the international economic debates. Moreover, revisiting financial stability underpinnings cannot be discarded in a region prone to systemic banking crises. In addition, after ten years of relative price stability, there seems to be a growing sense of complacency with respect to inflation in some Latin American countries, which may lead governments to require central banks to also focus on supporting growth and employment.

The primary goal of this paper is to review central banks' evolving role in Latin America, with the aim of distilling lessons about their performance and shedding light on the debate about their future. The paper fills a gap in the literature as, to my knowledge, there is no single study that analyses central bank policies in Latin America from a historical perspective covering central banks' entire institutional life.[3]

The analytical framework used throughout the paper is the so-called "Trilemma hypothesis."[4] This hypothesis contends that small open economies can only achieve simultaneously two of the following three policy goals: (i) exchange rate stability; (ii) financial integration with the rest of the world; and (iii) independent monetary policy. In the past, central banks in Latin

[2] See Blanchard and others (2013) and Bayoumi and others (2014).

[3] Previous works mostly provide a historical view of national central banks and typically cover up to the 1960s. See, for example, Carrasco (2009) on Chile and Banco de la Republica de Colombia (1990). A regional analysis does not exist except for the old work by Tamagna (1963) and Ortiz (1998) that focuses on the 1930s.

[4] This analytical framework, also known as the "impossible trinity" was pioneered by Fleming (1962) and Mundell (1963).

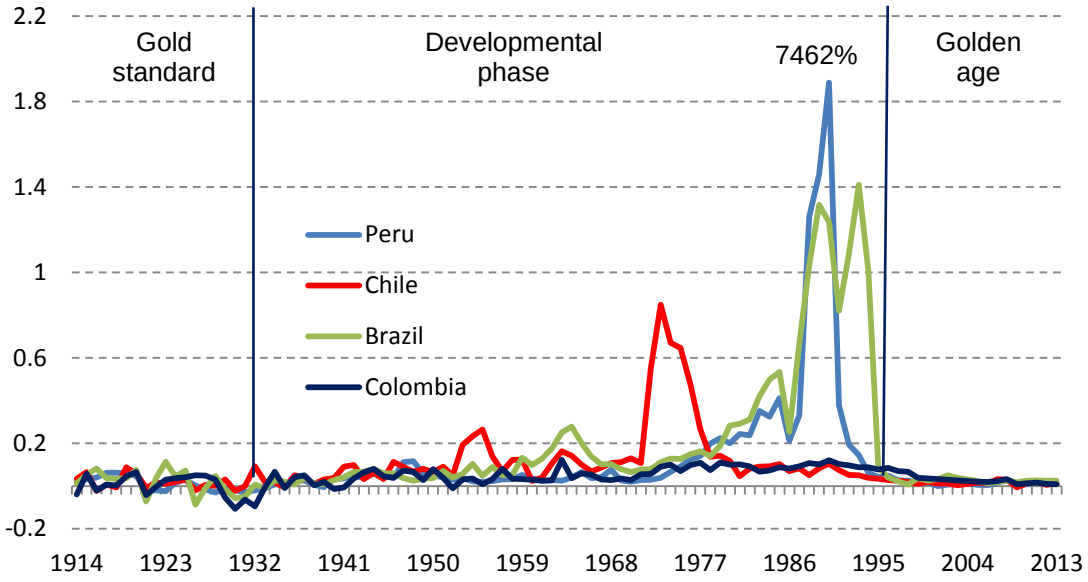
America have chosen different combinations of two of these goals, depending on the requirements at the time, when formulating monetary policy. The same analytical framework is also valid to discuss some of the constraints facing central banks in emerging economies in the aftermath of the global financial crisis.

The historical journey presented in this paper distinguishes three main periods of central banking in Latin America: the early years, the developmental phase, and the golden years. They provide useful reference points to analyze the evolving role of central banks. In each of these historical phases, central banks pursued explicitly or implicitly different policy objectives. In the "early years," which cover the 1920s up to the end of the Second World War, Latin American central banks focused primarily on securing an orderly financing of the economy and the stability of the financial system. In the "developmental phase," which spans from the post-war period up to the 1980s, central bank policies were an integral part of governments' economic policy and, thus, they essentially turned into development banks, financing various economic activities and government expenditure with a view to boosting economic growth. The so-called "golden years" started in the 1990s, when central banks were granted independence to focus their policy objective primarily—and even exclusively—on price stability.

The performance of inflation during the last 100 years is consistent with the main objectives pursued by central banks in these three periods (Figure 1). A snapshot of the evolution of inflation in Brazil, Chile, Colombia, and Peru suggests that before and immediately after the creation of the central banks inflation was relatively low but volatile—with prices even declining in several years—until the 1930s. Then, following the Second World War, inflation accelerated and eventually soared in the 1970s, reaching four-digit inflation rates by the late-1980s and early-1990s in Brazil and Peru.[5] By the mid-1990s inflation started to decline, but it was only by the mid-2000s that Latin America finally achieved price stability. The rest of the paper is organized as follows: sections II to IV analyze the institutional foundations of central banking and the policy framework in place in each of these three periods; and section V concludes by identifying the challenges that Latin American central banks are likely to confront in the future.

[5] Other countries also featured very high inflation during the 1980s, like Argentina (four-digit inflation rate) and Bolivia and Nicaragua (five-digit inflation rate).

Figure 1. Brazil, Chile, Colombia, and Peru: 100 Years of Inflation
(1 + inflation, in logs, y-o-y)*/



Sources: Peru: Reserve Central Bank of Peru; Chile: Diaz and others (2010); Colombia: Grupo de Estudios para el Crecimiento Económico (2001); Brazil: 1901–08: Suzigan and Villela (2001); 1909–47: Haddad (1978); 1948–2013: Instituto Brasileiro de Geografia e Estatística.

*/ Chile, Colombia, and Peru: Annual inflation rate. Brazil: Annual implicit deflator; from 1981 onward CPI.

II. THE EARLY YEARS

The first central banks in Latin America were established in the 1920s. It was a time when a worldwide consensus had been reached as to the need for all countries to have a central bank. Important sources of impetus for the creation of central banks were the Brussels International Financial Conference in 1920 and the Genoa Conference in 1922. The latter recommended that countries adhere to the gold standard. In those years, Latin America was going through a period of economic turbulence, characterized by volatile inflation. The average annual inflation rate ranged from -9.19 percent to 16.25 percent during the early-1920s in Colombia and from -2 percent to 7 percent during the first half of the 1920s in Chile.[6] The exchange rate was also unstable. In Chile, the peso/U.S. dollar (US$) rate depreciated from an average of 5.73 in 1920 to 9.24 in 1924, whereas in Ecuador the average exchange rate (sucres/US$) in the free market depreciated from 2.25 to 4.80 between 1920 and 1923.[7] Moreover, in some countries the financial system was under stress.[8]

[6] See GRECO (2001) for Colombia and Diaz and others (2010) for Chile.

[7] See Diaz and others (2010) on Chile and Carbo (1978) on Ecuador.

[8] For instance, in Chile, Banco Español de Chile could not honor its deposits and other liabilities, just before the opening of the Central Bank of Chile (see Banco Central de Chile, Annual Report, 1926).

The first group of central banks was founded following a blueprint similar to the one used for the U.S. Federal Reserve (Fed)—created in 1913. It included initially the Reserve Bank of Peru in 1922 and the Bank of the Republic of Colombia in 1923. Chile and Mexico established their central banks in 1925, followed by Guatemala, Ecuador, and Bolivia in 1926, 1927, and 1929, respectively. These central banks endorsed and were committed to adhere to the gold standard.[9] A second group of central banks was established after the collapse of the gold standard, including El Salvador (1934), Argentina (1935), and Venezuela (1939). The youngest central banks are the Central Bank of Brazil (1964) and the Central Bank of Uruguay (1967), although the monopoly of currency issuance existed in these two countries way before in the hands of the Bank of Brazil and the Bank of the Oriental Republic of Uruguay, which were commercial banks partially owned by the state.

A. Central Banking During the Gold Standard

The creation of central banks in Latin America was preceded by several failed attempts, as the approval of legislation was recurrently aborted in the legislation. This is not surprising, as giving the central bank the monopoly of currency issuance implied abolishing the vested economic interest of the banks' shareholders that were issuing bank notes, who had strong political influence in congress. To overcome this hurdle, in most countries foreign experts were asked to assist in the creation of central banks, which also granted credibility to the reform. The Kemmerer missions that visited Latin America during the 1920s and early-1930s influenced the creation of central banks in Colombia, Chile, Ecuador, Bolivia, and Guatemala, as well as the 1931 reform that established the Central Reserve Bank of Peru.[10]

Central banks had an auspicious start, but soon went through a bumpy period as they had to cope with the severe impact of the Great Depression. During their early years, Latin American central banks benefited from a mostly favorable external economic environment. The U.S.—already Latin America's main trade partner—was growing strongly (more than three percent on average during the 1920s) while maintaining relatively low inflation (less than one percent on average in the five years before the start of the Great Depression). In addition, commodity prices, such as copper, coffee, and wheat, were performing well (see Diaz and others, 2010). Even the price of gold was at its highest level.

Mandate

The first central banks in Latin America were designed to fulfill—explicitly or implicitly—three key objectives: (i) maintain monetary stability; (ii) help to preserve banks' stability; and (iii) finance the government on a limited basis. Monetary stability would result from an orderly currency issuance associated with the rules of the gold standard arrangement, which

[9] The term "gold standard" is used throughout the paper but it was really the "gold exchange standard" that most Latin American countries actually endorsed. The latter allowed countries to convert domestic banknotes into bills of exchange denominated in a foreign currency that was convertible into gold at a fixed exchange rate.

[10] Edwin W. Kemmerer was an economics professor at Princeton, who led missions of experts to seven Latin American countries between 1917 and 1930 to advise on monetary and financial sector issues (see Eichengreen, 1994).

would also secure a stable exchange rate and, ultimately, an environment of low inflation. By requiring commercial banks to be on a sound financial footing in order to benefit from rediscount operations, central banks contributed to maintaining financial stability. In turn, central bank financing to the government, although allowed, was constrained by legislation, with a view to avoiding repetition of previous episodes of generous—often forced—financing to the government by private banks that enjoyed the privilege of issuing local currency. Unlike modern legislation, in their early years, central banks did not have explicit policy objectives but rather a number of functions they were expected to perform (Box 1).

Box 1. Key "Mandates" of Central Banks in Latin America at the Time of Creation

Initially, central banks did not have clear mandates but rather were assigned several functions. These functions directly or indirectly included (i) regulating money in circulation and accumulating international reserves; (ii) securing financial stability; and (iii) financing the government in limited amounts.

Argentina:
Law 12.155, (1935):
- Issue the domestic currency.
- Regulate the amount of money and credit in line with the needs of the economy.
- Accumulate sufficient international reserves to moderate the adverse effects of exports and foreign investments and preserve the value of the currency.
- Preserve appropriate conditions of liquidity and credit and apply the legislation on the banking system.
- Act as fiscal agent and advisor for the management of public debt.

Chile:
Law 486 (1925):
- Issue the national currency.
- Conduct rediscount and discount operations with banks and the general public.
- Provide financial assistance to the public sector on a limited basis.
- Work as a fiscal agent.
- Receive deposits from banks, the public sector, and the general public.
- Provide clearing for payments.
- Define the rediscount rate.

Colombia:
Law 25 (1923):
- Issue the national currency.
- Conduct rediscount and discount operations with banks and the general public.
- Provide financial assistance to the public sector on a limited basis.
- Work as a fiscal agent.
- Receive deposits from banks, the public sector, and the general public.
- Provide clearing for payments.
- Define the rediscount rate.

Ecuador:
Organic Law of the Central Bank of Ecuador (1927):
- Issue the national currency.
- Act as lender-of-last-resort (LOLR) to the banking system.
- Conduct rediscount and discount operations with banks and the general public.
- Provide financial assistance to the public sector on a limited basis.
- Work as a fiscal agent.
- Receive deposits from banks, the public sector, and the general public.
- Define the rediscount rate.
- Provide clearing for payments.

El Salvador:
Law that Creates the Reserve Central Bank of El Salvador (1934):
- Issue the domestic currency.
- Control the volume of credit and the money supply.
- Preserve the external value of the currency.
- Act as a fiscal agent and receive deposits from the government.

Peru:
Law 4500 (1922):
- Monopoly of currency issue.
- Receive deposits from banks, the public sector, and the general public.
- Discount and rediscount commercial paper, treasury bonds, and other financial instruments.
- Define discount rates.
- Provide clearing for payments.
- Provide financing to the government on a limited basis.

The key responsibility assigned to central banks was the monopoly of issuing bank notes as a way of ensuring orderly currency management. Other functions included:
(i) discounting/rediscounting commercial paper and maintaining banks' liquidity;
(ii) receiving deposits from the public sector, banks, and the general public; (iii) working as a fiscal agent and providing credit to the public sector in limited amounts; (iv) regulating banks; and (v) providing clearance for payments.

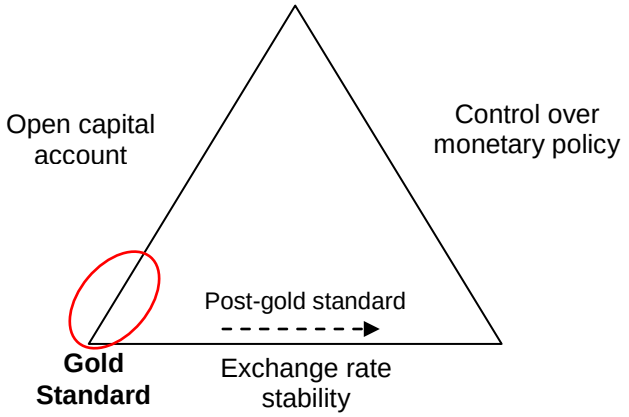
The composition of the central banks' board of directors provided some *de facto* independence to central banks. It included representatives of the government and the private banks who had previously been in charge of money creation. In some countries, like Chile, and Ecuador, business associations and labor organizations were also represented in the central bank board, while in Colombia one of the members represented private citizens. With such a diversified membership on the central bank boards, lawmakers tried to establish checks and balances and sought to prevent any single party, public or private, from being able to control central bank policy decisions. While central banks were not created as politically independent institutions, most did enjoy operational independence due to the policy limitations imposed by the gold standard. Although monetary policy was envisaged to be part of the government's broad economic policy, the issuance of currency and, hence, the expansion of credit, was limited by the requirement to back the new currency with gold reserves. Thus, monetary policy was restricted and neither the government nor the private sector could have access to unlimited central bank financing. In addition, legislation introduced specific operational restrictions in the provision of credit, with the aim of protecting central banks' financial soundness.

Monetary policy framework

Because Latin American countries adhered to the gold standard, in theory, monetary policy was endogenous. Central banks were required to preserve the convertibility of their currencies at a fixed exchange rate and kept an open capital account to allow capital flows to adjust balance of payment disequilibria. As a result, central banks were not fully in control of monetary policy (Figure 2). Central banks were allowed to issue banknotes only if they were backed by international reserves, mostly gold. Legal provisions required that 50 percent of the banknotes issued by the central bank be backed by the so-called "legal reserves," which typically included the sum of the central bank's gold and foreign currency convertible into gold. For example, the Central Bank of Chile only could issue notes for as much as twice the amount of its gold reserves. A similar rule existed for Ecuador, Mexico, and Peru. In Colombia the Bank of the Republic had to have reserve coverage for 60 percent of its banknotes.

The gold standard imposed an automatic mechanism for adjusting to balance of payment disequilibria. When countries were hit by either real or financial shocks and international reserves declined, money supply also shrunk as central banks sold gold. As a result, the interest rate increased, thereby attracting capital inflows, which would restore international reserves and money supply. The gold standard regime was pro-cyclical in nature. For example, raising interest rates was the only policy response to a negative external shock. The higher interest rate helped correct the external disequilibrium, but also dampened economic activity.

Figure 2. Monetary Policy During and Immediately After the Gold Standard Years



As central banks endorsed the gold standard rules they relinquished their control over monetary policy in exchange for preserving exchange rate stability and free capital mobility. When countries abandoned the gold standard, central banks maintained fixed exchange rates, but imposed capital controls in order to achieve monetary policy independence.

In practice, the gold standard was not always binding. Central banks in Latin America observed the 50 percent rule with wide margins to ensure that their banknotes were converted into gold at any time. Banknotes in circulation were almost entirely supported with legal reserves—more than 100 percent in Chile in 1927, more than 80 percent in 1928 in Ecuador, and more than five times in Mexico in 1929.[11] These buffers proved useful to send the right signal about the central banks' ability to convert their banknotes into gold at any time. Such a conservative policy also left room to expand rediscount operations and provide financial support as LOLR to banks as necessary. For instance, in the run-up to the Great Depression, central banks were able to mitigate the adverse effects of the large negative shock through the provision of credit to the private sector and also to the government.

The workings of monetary policy under the gold standard in the run-up to the Great Depression can be illustrated with the case of Chile. As capital outflows gained momentum, Chile's central bank sold gold and foreign currencies (convertible into gold), thereby inducing a decline in banknotes (Figure 3a). At the same time, as the money base plunged during 1929 to 1931, the central bank increased interest rates, namely the *rediscount rate*, from six to nine percent to attract foreign capital and stem the loss of international reserves (Figure 3b).[12] Nonetheless, like in other countries, the central bank cut interest rates swiftly—200 basis points between August and October of 1931—as Chile suspended the convertibility of the peso and eventually abandoned the gold standard regime.

[11] See the annual reports of each country's central bank.

[12] Similarly, Colombia increased the rate in 1929 to cope with a decline in international reserves (see Meisel, 1990) and in Peru the central bank increased its rate six times in 1928 and 1929 (see the Reserve Central Bank of Peru Annual Reports).

Figure 3a. Chile: Gold and Bank Notes in the 1920s
(In millions of pesos)

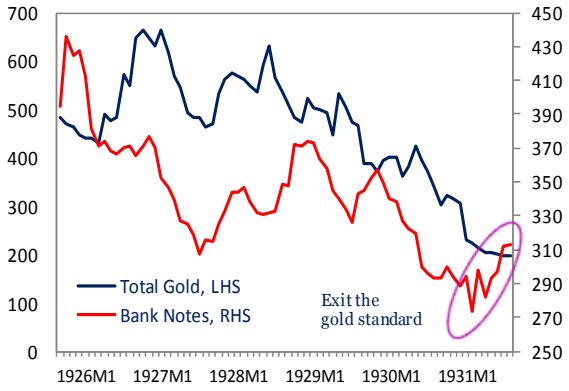
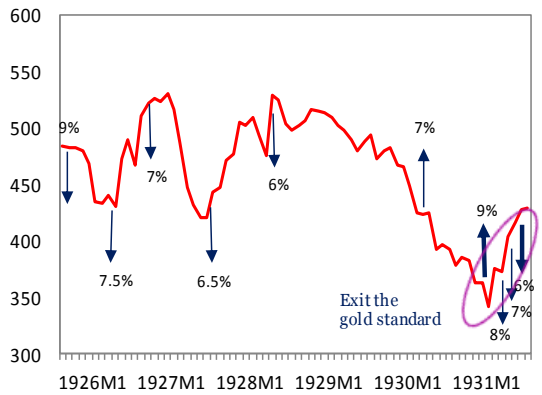


Figure 3b. Chile: Money Base and Rediscount Rate in the 1920s
(In millions of pesos and percentage rate)



Source: Central Bank of Chile Annual Reports.

Countries set their exchange rate based on the rules of the gold standard. The value of each currency was measured in terms of the amount of fine gold it contained, and because such value tended to differ across countries, it was possible to establish bilateral exchange rates. For example, because the sucre in Ecuador contained 0.300933 grams of fine gold in 1927 and the U.S. dollar contained 1.504665 grams, the exchange rate was five sucres per U.S. dollar (Carbo, 1978). Similarly, since the Chilean peso contained 0.183057 grams of fine gold, the exchange rate was about eight pesos per U.S. dollar (Carrasco, 2009).

Central bank operations were not uniform across countries in Latin America. While central banks accepted deposits and financed the public sector, commercial banks, and even the public at large, central banks' lending varied across countries. While the Bank of Mexico focused almost entirely on lending to the private sector, the Central Bank of Ecuador devoted significant resources to finance the government, and the Central Bank of Chile financed both, the private and public sectors (see annual reports for each country).

In order to perform monetary operations, central banks rediscounted debt instruments to banks at a given interest rate—the rediscount rate—provided those financial institutions were solvent according to the banking authority and they had not used up their borrowing limit. For instance, in Mexico the amount of rediscounts could not exceed ten percent of the central bank's capital. When commercial banks faced liquidity shortages, central banks were empowered to supply liquidity, provided the impaired bank was solvent. Central banks could also discount paper to the general public (Chile, Colombia, Ecuador, Peru, and Mexico until 1932) although, in practice, these transactions were small. The discount rate was not the same across economic agents and activities. Central banks charged different discount rates to different customers; in Chile, for example, the central bank charged one percent less for commercial banks than to the general public.[13] Central banks also typically charged lower discount rates for loans to the industrial and agricultural sectors. The discount rate also varied

[13] See Central Bank of Chile, Annual Report (1935).

depending on the amount of the loan and the likelihood of its recovery. The Bank of Mexico, for example, charged multiple rates in direct operations with the general public, ranging from 8 to 12 percent in 1926.[14]

At the same time, central bank financing to the government was allowed but under limited conditions. Before central banks were established, commercial banks were required to finance the government by purchasing treasury bills. Central bank legislation changed the rules of the game and concentrated this financing at the central bank, under specific restrictions. For instance, in Chile, central bank loans to the government—including local governments and public institutions—could not exceed 20 percent of its capital, although this limit could increase to 30 percent if approved by eight of the ten members of the central bank board (Carrasco, 2009). This cap, however, was lifted in the midst of the Great Depression when the government authorized, in 1931, special lines of credit from the central bank to the government to compensate for the decline in public revenues (Law No. 4971). In Colombia, the limit for lending to the government was initially set at 30 percent of the central bank capital and increased to 45 percent in 1930 (Bank of the Republic website). Over time, this restriction was relaxed and central banks started to finance the government in larger amounts.

B. The Great Depression and its Aftermath

By the late 1920s, central banks in Latin America started to face the spillovers of the Great Depression. This shock hit Latin America through three main channels: declining world trade flows, falling commodity prices, and increasing capital outflows. With economic activity contracting in the advanced countries—and elsewhere in the world—and following the introduction of protectionist measures, the demand for commodities declined and thus Latin American exports fell. Commodity prices also plunged, more than the price of imports, and, hence, the region's terms of trade deteriorated markedly. As a result, economic activity slowed down and the region fell into depression.[15] At the same time, net capital flows turned negative, as real interest rates remained elevated in the U.S., amplifying the adverse effects of the real shock.

Public finances were also badly hit. The decline in exports lowered fiscal revenues and the collapse of external funding severely constrained government external borrowing, which shifted the pressure on central bank financing. Because the dollar price level plummeted, external debt service surged in real terms: this made it difficult for the Latin American countries to remain current on foreign debt payments and, hence, most countries defaulted between 1931 and 1934 (Diaz Alejandro, 1982a). Across the region, capital outflows drained central banks' gold reserves forcing governments to suspend the convertibility of banknotes into gold.

[14] Bank of Mexico, Informe a la Asamblea General Ordinaria de Accionistas (1926).

[15] Díaz Alejandro (1982a) points out that the decline in terms of trade in Latin America was in the range of 21 to 45 percent between 1929 and 1933.

Box 2. The Response of Latin American Central Banks to the Great Depression

Monetary policy was the only policy tool available to mitigate the adverse effects of the Great Depression in Latin America. With commodity prices collapsing due to weak demand from advanced countries, both international reserves and fiscal revenues fell drastically. In response, central banks implemented counter-cyclical policies to counteract the economic slump. Measures included curtailing interest rates and also implementing quantitative easing—pretty much like central banks in the advanced economies have done recently to tackle the adverse impact of the 2008 financial crisis. Despite adopting these policies, internal economic activity declined and the level of prices plummeted, especially in the more open economies, inducing governments to suspend and later abandon the gold standard, and to introduce capital controls and banning the export of gold.

Central banks initially raised discount rates as international reserves were falling in the late 1920s (Colombia increased the rate from seven to eight percent, Bolivia from seven to eight percent to eight to nine percent, and Chile from six to nine percent). However, as the external shock persisted, central banks loosened monetary policy in the early-1930s under concerns that a high discount rate would only exacerbate the adverse effects of the Great Depression. The Bank of the Republic of Colombia and the Central Bank of Ecuador halved the discount rate for the general public during 1930 and 1931 and the latter slashed the rate even more in its operations with banks, from ten to four percent, while the Central Bank of Chile cut the discount rate after the country abandoned the gold standard from 9 to 4.5 percent by mid-1935. These measures were complemented with reductions in the rate of reserve requirements (Colombia) and the imposition of capital controls to tame the wave of capital outflows experienced as countries exited the gold standard (Chile, Colombia, Ecuador).

Central banks also assisted commercial banks facing liquidity needs and introduced sector-specific credit lines, in particular after countries abandoned the gold standard. As the world crisis triggered widespread uncertainty, deposit withdrawals escalated and capital outflows multiplied, like in modern twin crises. With more room to maneuver after exiting the gold standard, central banks expanded liquidity assistance to banks to avoid a financial panic. For instance, the Central Bank of Ecuador almost tripled outstanding loans to the private sector from end-1931 to end-1933 (Carbo, 1978). Moreover, central banks provided credit to fuel activity in specific sectors and thus to temper economic depression. The Central Bank of Chile purchased directly mortgage securities and extended credit to agriculture, industrial, and mining activities at preferential rates. Similarly, the Bank of the Republic of Colombia expanded credit to the private sector, including rediscounts to coffee producers—and the agriculture sector at large—at preferential rates (Sanchez and others, 2005).

Finally, central banks increased their financing of fiscal deficits. Because government revenues fell as a result of declining foreign trade and, in general, of economic depression, and since the external financing dried up, central banks were required to directly finance government expenditure. Some of this financing was aimed at paying the external debt, but it also supported local government expenditure, like in Ecuador, where central bank financing to the government doubled in 1932 and increased by an additional 70 percent in 1933 (Carbo, 1978), in Chile, where central bank credit to the government increased fourfold from mid-1931 to the end of 1933 (Carrasco, 2009), and to the government, with such expansion reaching more than 200 percent in 1931 and 1932 (Meisel, 1990). Central bank loans typically carried a preferential interest rate.

The economic consequences of the Great Depression on Latin America were devastating. In Chile, output shrunk by a cumulative 44 percent during the period 1930–32 as exports fell 36, 26, and 62 percent, respectively, in those three years (Corbo and Hernandez, 2005), and real wages plummeted to levels that were not reestablished until 1943 (Diaz and others, 2010). Economic contraction was also sizable in Brazil, where the 1929 level of output was only restored in 1933 (Haddad, 1978). The level of prices plunged in Argentina 13.9 and 10.3 percent in 1931 and 1932 (Ambito Financiero website) while in Brazil prices fell more than 11 percent on average in 1930 and 1931 (Haddad, 1978). This adverse outcome materialized despite the efforts of central banks to cope with the effects of the global shock (Box 2).

Preserving the gold standard in the midst of the Great Depression imposed severe sacrifices and eventually became an insurmountable restriction. Thus Latin America—like the rest of the world—abandoned this monetary system. Chile, Colombia, Ecuador, Mexico, and Peru, which had temporarily suspended the convertibility of their currencies, officially exited the gold standard during 1931 and 1932.

Institutional reforms and new central banks

Following the collapse of the gold standard, Latin America entered into a phase of central bank reform. Several countries introduced major changes to central bank legislation or enacted new laws in order to adapt central banks to the new international monetary order. As a case in point, the law of the Bank of Mexico was reformed successively in 1932, 1936, 1938, and 1941. The amendments were aimed at strengthening the Bank of Mexico's ability to conduct monetary policy and prevent external imbalances, but they also made room for expanding government financing. Other countries also reformed central bank legislation (i.e., Ecuador in 1933, 1937, and 1938, Bolivia in 1939, Chile in 1935, and Peru in 1941).

This period also saw the creation of new central banks in El Salvador (1934) and Argentina (1935), and, later, in Venezuela and Nicaragua. As in the previous phase, foreign advisors played a crucial role in the creation of these central banks. Argentina benefited from the ideas of Sir Otto Niemeyer from the Bank of England, although it was Argentinean economist, Raúl Prebisch, who ultimately laid out the central bank's institutional foundations. Frederick Powell, also from the Bank of England, led a mission that advised on the creation of the Reserve Central Bank of El Salvador, while Hermann Max from Chile advised on the creation of central banks in Venezuela and Nicaragua in the late-1930s. The new central bank laws reproduced many of the provisions existing in the legislation of the central banks created in the 1920s.

Because countries had already abandoned the gold standard, new central bank legislation gave central banks explicit responsibilities for controlling money and credit in the economy. In El Salvador, the responsibilities were aimed at preserving the external value of the domestic currency. In Argentina, regulating money and credit was required to safeguard financing of the economy. However, the central bank was also called upon to lean against the wind by accumulating sufficient international reserves to moderate the adverse effects of external shocks—like sudden capital outflows and negative terms of trade shocks—and preserve the value of the currency. To fulfill its monetary objectives, the Argentine central bank was empowered to undertake open market operations—using its own short-term securities—as the key instrument to control money and credit; this was the first central bank in Latin America thad was allowed to issue securities.

The Central Bank of the Republic of Argentina also was tasked with regulating and supervising the banking system. This dual responsibility—monetary policy and banking regulation and supervision—was later replicated in the central banks of Brazil, Paraguay, and Uruguay. In contrast, in Chile, Colombia, Ecuador, Peru—under the influence of the Kemmerer missions—and Mexico, the central bank only was tasked with monetary policy and banking supervision was assigned to a separate agency. These distinct institutional

arrangements have been characterized as the "Atlantic" and the "Pacific" models, respectively (Jácome and others, 2012).

Although they had abandoned the gold standard, countries in Latin America at first tried to limit the uncertainty stemming from the inconvertibility of banknotes under the new monetary regime and maintained the practice of backing currency issue with foreign exchange reserves. Thus, as of 1935, banknotes issued by the Central Reserve Bank of Peru had more than 50 percent coverage of international reserves, whereas in Argentina this ratio was 138 percent in 1936. However, by 1941 this ratio had gradually declined to less than 25 percent in Peru and to slightly above 100 percent in Argentina.[16] In addition, legislation in Argentina stated that foreign currency held by the central bank in international reserves could not exceed 20 percent of the amount of gold.

Discretionary monetary policy

By exiting the gold standard, central banks in Latin America gradually acquired control over monetary policy. While they kept exchange rates fixed, countries increasingly imposed capital controls, thus, giving central banks the scope to conduct independent monetary policy. Thus, central banks had more leeway not only to regulate the amount of money and credit, but also to implement counter-cyclical policies. They also were able to adjust the exchange rate as needed. However, most central banks' balance sheets started to grow rapidly, reflecting the new monetary policy stance and, in particular, increasing government financing.

The majority of countries kept the exchange rate tied to the U.S. dollar, but many of them had changed the parity and devalued their currency following the collapse of the gold standard (Chile, Colombia, and Ecuador).[17] As for the structure of the exchange regime, many countries adopted dual markets with central banks intervening frequently to keep the parallel free market in check in the late-1930s—early-1940s, and a few introduced multiple exchange rates. Capital controls were extensively used, initially to contain massive capital outflows as countries abandoned the gold standard, and later as a policy tool to attain control over monetary policy. Thus, with greater scope to conduct monetary policy, central banks in Latin America started a new era. They increased their support to private banks using new monetary policy instruments. In some countries, financing the public sector became the most important source of monetary expansion. In addition, some countries like Argentina, tried to follow counter-cyclical policies to mitigate the effects of a volatile external environment.

As monetary policy became more controllable, countries started to enhance their monetary policy toolkit. Changes in rediscount and discount rates gradually lost popularity and, as an

[16] See the 1935 and 1941 annual reports.

[17] In Chile, the exchange rate depreciated significantly in 1932 as the value of the *peso* jumped from 8.2 to 16.5 per U.S. dollar (Carrasco, 2009). Colombia depreciated the *peso* 19.1 and 30.4 percent in 1933 and 1934 (Meisel, 1990), whereas in Ecuador the *sucre* depreciated several times from 5.48 to 14.04 per U.S. dollar between 1932 and 1944 (Banco Central del Ecuador, 1997).

alternative, central banks began to use other instruments.[18] For instance, some central banks started to trade *securities*, issued either by the government or by themselves, but not as open market operations, except for Argentina, where the central bank issued Certificates of Participation and used Treasury Certificates in 1935 and 1936 for liquidity management purposes. Often, central banks traded securities to intervene in the foreign exchange market, in particular during periods of capital inflows (Argentina, Chile, Colombia, and Ecuador). Also, pioneered by Mexico, changes in reserve requirements started to gain popularity as a policy instrument.[19] In addition, during the early-1940s, several countries started to impose quantitative restrictions on central bank credit to avoid increasing the rediscount rate.

Reflecting these factors, central banks' balance sheets expanded following the gold standard years. Two cases in point are Chile and Peru, where net assets grew as a result of central bank financing to the government. In Chile, financing to the government on a large scale occurred primarily to tame the economic contraction stemming from the Great Depression in the early-1930s, followed by the extension of credit lines to other public sector institutions. Later, in the early-1940s, the expansion was mostly driven by the increase in foreign exchange reserves (Figure 4a). In Peru, credit to the government increased more than threefold between 1933 and 1938, and rose another 300 percent by 1944 (Figure 4b). Another example is Mexico, where central bank credit to the government exceeded central bank loans to the banking system by more than five times and represented close to 45 percent of the Bank of Mexico's total assets by 1940.[20] In Argentina, central bank financing to the government during these years was kept relatively stable and the central bank did not lend to the banking system.[21] The rise in international reserves was the main driver of the increase in Argentina's central bank's balance sheet until 1945.

During this first phase, Latin American central banks managed to preserve financial stability and relatively low, although volatile, inflation. Adherence to the gold standard and the associated fixed exchange rate imposed restrictions on monetary policy allowed to keep inflation low. At the same time, this monetary and exchange rate regime was a source of procyclicality as external shocks were exacerbated, thus causing volatility in the level of prices. As countries abandoned the gold standard, central banks acquired discretion to implement monetary policy as they no longer had formal restrictions in place to ensure the convertibility of domestic currencies. Monetary expansion accelerated mostly to finance the

[18] In Chile, the central bank kept the rediscount rate fixed at four percent between 1935 and 1945 (Carrasco, 2009).

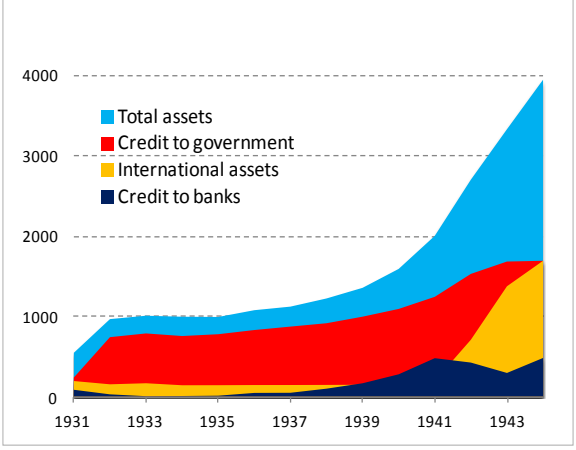
[19] The Bank of Mexico changed the reserve requirement rate within the range of 3 and 15 percent from 1936 onwards and between 15 and 20 percent from 1941. Argentina also changed reserve requirements in 1936. An increased use of reserve requirements was followed by Venezuela in 1940, Nicaragua in 1941 and Costa Rica in 1943, among other countries.

[20] The Bank of Mexico initially set restrictions on lending to the government at ten percent of its capital. This restriction, however, was relaxed in 1937 (Bank of Mexico Shareholders General Ordinary Assembly, 1937 and 1940).

[21] Article 44 of the Law No. 12.155 authorized credit operations to the government of up to ten percent of the previous fiscal year's revenues, with the aim of smoothing out the stream of such revenues. In turn, credit to financial institutions was provided by Banco Nación—a state-owned institution—until 1945.

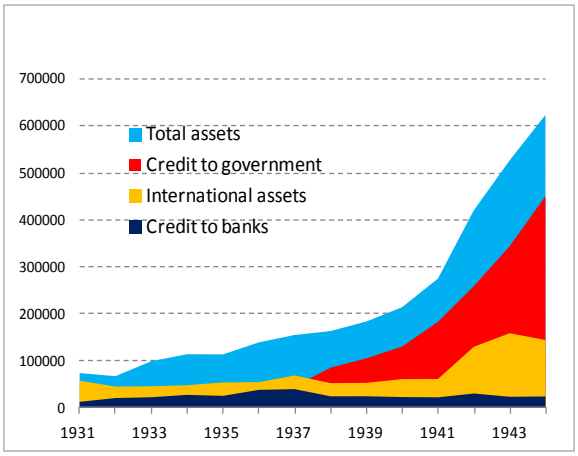
government, thus sowing the seeds of higher inflation. By the early-1940s, inflation in Latin America was rising gradually—reinforced by imported inflation as prices in the war economies were also creeping up—reaching double-digit rates in several countries.[22]

Figure 4a. Chile: Central Bank Assets 1931–44
(Millions of current pesos)



Source: Central Bank of Chile, Annual Reports.

Figure 4b. Peru: Central Bank Assets 1931–44
(Thousands of current soles)



Source: Central Reserve Bank of Peru, Annual Reports.

III. THE DEVELOPMENTAL PHASE

With the end of the Second World War, Latin America entered into a period of economic progress. As the world armed conflict came to an end and previous international trade disruptions waned, the reconstruction underway in major industrial countries boosted global demand. Latin American output expanded, reflecting the combination of a favorable external environment and government policies aimed at spurring internal demand in tune with the prevailing Keynesian ideas, following the disenchantment with the policies in place before the Great Depression.[23] In the largest countries of the region, expansionary economic policies were part of the development strategy based on import-substitution industrialization that had gained traction since the late-1930s.[24]

[22] Meanwhile, economic growth returned to positive territory after recovering from the Great Depression and then exhibited a relatively modest path in the midst of still adverse external conditions. Then, as the industrial countries retreated into war economies, exports were hit and thus economic growth decelerated once again (Bulmer-Thomas, 2003).

[23] In the largest Latin American countries, governments introduced taxes and subsidies with the aim of directing resource allocation towards the industrial sector and fostering activities considered more socially valuable. They also intervened directly by creating public enterprises, and introduced price controls and rationing to restrict market clearing processes in order to assure the provision of strategic goods and services to the population (typically, public utilities and transportation).

[24] Diaz Alejandro (1982b) refers to this period as the "golden age of import substitution industrialization in Latin America" that also witnessed an acceleration of urbanization in those same countries.

Monetary policy was broadly aligned with the new government policies, albeit restricted by the rules of the Bretton Woods system established in 1945 as the new global monetary order. Governments started to play a critical role in the formulation of monetary policy, turning the focus of central bank policies away from inflation control and toward fostering economic growth though still preserving exchange rate stability, as required by the Bretton Woods system. Central banks extended credit through the banking system to priority sectors selected by the government and became the most important source of government financing. This expansionary monetary policy stance fueled inflation, which, eventually, became endemic, especially in Argentina, Brazil, Chile, and Uruguay. As a result, these countries had to start adopting inflation stabilization policies in the late-1950s, albeit without major success.[25] Following the collapse of the Bretton Woods system in the early-1970s, Latin American countries gradually moved to more flexible exchange rate regimes and started to open their capital account. However, this was not a smooth process. A number of countries experienced increasing macroeconomic instability, as inflation soared to record highs reaching, in some cases, hyperinflation.

A. The Bretton Woods Years

The Bretton Woods system was based on the convertibility of the U.S. dollar into gold at a fixed value. It required other countries to maintain fixed, although adjustable, exchange rates and to commit to the convertibility of their currencies against the U.S. dollar, which was chosen as the new reserve asset—pretty much like gold in the gold standard system. The Bretton Woods Agreement provided rules to restore exchange rate stability and avoid competitive devaluations. While countries were required to state a par value against the U.S. dollar—or against gold—and to maintain it fixed within a one percent range above and below such value, countries were also entitled to change the par value by up to ten percent.

Institutional changes

To reflect the new economic strategies and the new international monetary order, a wave of central bank reforms took place in Latin America. There was a general sense that the existing legislation was obsolete. Governments also considered that such legislation imposed unnecessary constraints on their economic strategy, which had become more interventionist. Several countries passed new central bank legislation and approved large reforms, sometimes more than once. Argentina, Bolivia, Ecuador, and Guatemala changed central bank legislation in the in the mid- to late-1940s. Argentina (again), Chile, and Colombia made those changes in the 1950s, whereas Chile (again), El Salvador, Peru, and Venezuela changed in the 1960s.[26] In addition, central banks were established in Cuba and Dominican Republic in the 1940s; and in Costa Rica, Honduras, and Paraguay in the 1950s. In the 1960s, the Brazil and Uruguay finally established stand-alone central banks.

[25] Argentina was already concerned with the rising inflation in the early-1950s. The government implemented the "Plan Economico, 1952" (see Memoria Anual del Banco Central de la República Argentina, 1953). Annual inflation declined from more than 50 percent in the early 1952 to single digits in 1953 and 1954.

[26] In some of these cases, new legislation was necessary because the term for the existence of the central bank set in the initial laws had expired.

As in the 1920s, many of the changes to central banks laws followed recommendations made by external experts. The U.S. Fed in particular had an important influence in the new direction taken by central banks through the technical assistance missions led by Robert Triffin to Paraguay, Guatemala, and Dominican Republic in the mid-1940s, and later to Honduras and Ecuador. Triffin was opposed to the passive character of monetary policy embedded in the previous legislation, which had worked as an amplifier of external shocks. Instead, he proposed legislation to support two key objectives inspired by the Keynesian credo. First, central banks should help foster economic development; and second, they should be able to adopt counter-cyclical policies to mitigate a volatile external environment. The Triffin missions were followed later by the Grove mission, also from the U.S. Fed, which provided similar recommendations to reform the Bank of the Republic of Colombia. In Argentina, Chile, and Peru, central bank reforms were internally conceived and also assigned central banks a developmental role.

A key feature of the legislation enacted in several countries was to include economic growth or economic development as one of the central banks' final objectives (see Box 3). While some of the new laws also made references to inflation (for example, requiring central banks to "prevent inflationary and deflationary trends," as in Chile and Ecuador) in general, promoting economic development was the overriding policy objective of monetary policy. The Central Bank of the Republic of Argentina was assigned a double objective, namely "preserve a high level of employment and the purchasing power of the currency," similar to the U.S. Fed. In turn, the Bank of Mexico was required to formulate monetary, credit, and exchange rate policies with the three-tiered objective of promoting the stability of the value of the peso, financial system development, and, sound economic growth. Central banks were called upon to support inward-oriented growth in the largest countries.

The new legislation also modified the governing structure of some central banks, which undermined their independence. With the change in the policy objective and a greater role of the government in monetary policy, the government, with representatives of state-owned financial institutions, increased their representation on central bank boards. Moreover, the executive branch became directly involved in monetary policy decisions beyond its presence on central banks' board of directors by involving other government institutions. For instance, in Argentina, the National Economic Council was assigned from 1947 onward a direct role in formulating credit regulations, leaving to the central bank the operational responsibility to implement those decisions. Moreover, the 1949 reform to the central bank law made the Minister of Finance the President of the Board of the Central Bank. Similarly, in Chile, starting in 1953, changes in reserve requirements were approved by the Minister of Finance and, in some cases, by the President of the Republic. The same happened in Nicaragua and Uruguay starting in the 1940s.

Box 3. Key Mandates of Latin American Central Banks During the "Developmental Phase"

Central banks became more focused on economic activity and more tolerant about inflation. Their revised mandate involved: (i) regulating the amount of money to secure currency stability and employment; (ii) managing international reserves and using capital controls to lean against external shocks; and (iii) promoting monetary, exchange rate, and credit conditions for orderly development of the economy.

Argentina:
Law 25.120 (1949):
- Regulate the amount of money and credit in order to secure conditions to preserve a high level of employment.

Chile:
Decree-Law 106 (1953):
- Encourage the orderly and progressive development of the national economy through credit and monetary policy, avoiding any inflationary or deflationary tendencies, and thus permitting the maximum use of the country's productive resources.

Colombia:
Decree 756DE (1951):
- Conduct monetary, credit, and exchange rate policies with the aim of fostering the appropriate conditions for an orderly and fast development of the Colombian economy.

Guatemala:
Law 215 (1945):
- Promote and maintain monetary, exchange rate, and credit conditions most favorable to the orderly development of the economy.

Mexico:
Act of Bank of Mexico (1985):
- Issue currency and preserve credit and foreign exchange conditions that favor the stability of the purchasing power of money, financial system development and, in general, sound economic growth.

Peru:
Law 13.598 (1962)
- Preserve monetary stability as well as credit and exchange rate conditions conducive to the orderly development of the economy, with the support of adequate fiscal and economic policies.

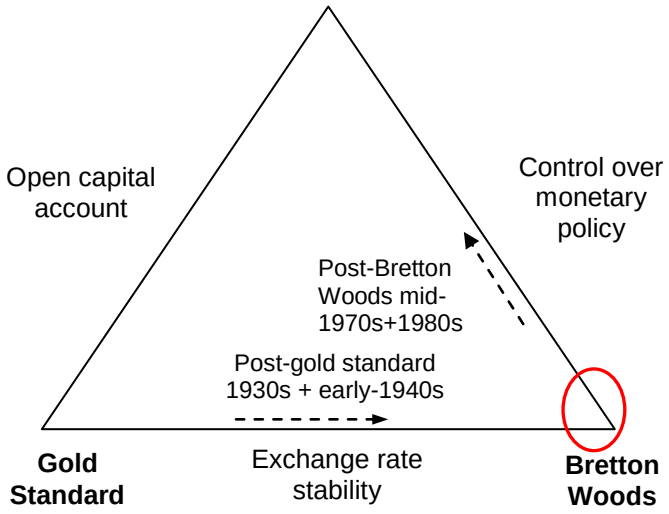
The monetary policy framework

During the Bretton Woods years, the fixed but adjustable exchange rate regime was the cornerstone of monetary policy in Latin America. As suggested by the trilemma hypothesis, the exchange rate peg was complemented with a vast array of capital controls, which opened the possibility for central banks to enjoy an autonomous monetary policy and, thus, to potentially manage monetary aggregates (Figure 5).

This policy framework re-established a close link between monetary imbalances and changes in international reserves. Because countries maintained a fixed exchange rate, expansionary monetary policy resulted in current account deficits which had to be financed with international reserves given that the capital account was relatively closed. Thus, in order to prevent an excess of money supply that would drain international reserves, central banks' credit to both the private sector and the government had to be kept in check. This analytical framework was the so-called "monetary approach to the balance of payments," popularized by the IMF as it was embedded in the economic programs negotiated with its member countries to eliminate balance of payments disequilibrium.[27]

[27] The approach was first formalized by Polak (1957) and extended and widely disseminated by Frenkel and Johnson (1976).

Figure 5. Monetary Policy During and After the Bretton Woods Years



Countries committed to maintaining a fixed, although adjustable, exchange rate. However, they relinquished financial integration with the rest of the world by introducing capital controls. In exchange, they achieved some control over monetary policy. As the Bretton Woods system collapsed, central banks started to adjust the exchange rate more frequently and, eventually, started to lift capital controls.

Capital controls became commonplace in Latin America as they helped to contain external disequilibrium and contributed to the allocation of resources. As noted earlier, capital controls had already been established in the 1930s following the gold standard fallout. However, they were somewhat validated during the Bretton Woods regime as the IMF was given no jurisdiction to enforce the elimination of capital controls. Latin American countries introduced capital controls to limit major disturbances in the foreign exchange market, to favor investments in some economic sectors, and even to restrict foreign ownership in specific activities.

Multiple exchange rates were the most common form of capital control in Latin America. Countries set different exchange rates for current account and capital account transactions, such that the latter typically had to be conducted at a more depreciated rate. Similarly, the repatriation of capital and interest was done, in general, at an exchange rate more depreciated than those for current account transactions. It was also common to discriminate between the public and private sectors and between foreign and domestic agents for cross-border capital transactions. Residents and non-residents were treated differently when making capital account transactions (Chile and Costa Rica). Also, government transactions were eligible for preferential exchange rate everywhere (Paraguay). Countries established a vast array of restrictions on the repatriation of investments and payment of capital and interest on foreign financing, and countries like Brazil and Colombia imposed taxation on capital payments. In general, capital transactions were treated differently, depending on whether foreign investment and financing were registered at the central bank. If registered, they could have access to the official market rate, or enjoy a preferential rate; if not registered, their capital transactions would be conducted in the free market.

The use of capital controls allowed domestic interest rates to deviate from international interest rates—even after factoring in risk premiums. Capital controls also helped to maintain official exchange rate parities and, in general, to delay speculative attacks against the domestic currency. Central banks had therefore more scope to gear monetary policy to other

policy objectives provided they kept in check credit to the government and limited excessive credit to the banking system to avoid adverse effects on international reserves and inflation.

The use of monetary policy for development purposes

During the Bretton Woods years, monetary policy in Latin American countries was an integral part of the governments' development strategy characterized by a widespread intervention in the economy in general and financial markets in particular.[28] While monetary instruments were, in principle, aimed at controlling monetary aggregates to keep external imbalances and inflation in check, in practice, central banks put more emphasis on financing specific economic activities, in particular agriculture, industry, and housing. This reflected the prevailing central banking paradigm in Latin America that assigned monetary policy an active role in fostering growth and development, and which materialized through government influences on central bank decisions. As a result, central banks turned out to be less politically independent than in the previous phase, when adhering to the gold standard left them little room for conducting monetary policy.

With a mandate of fostering economic development, central banks expanded their monetary policy toolkit. They continued using rediscount operations, but mostly to assign credit to economic activities selected by the government as a priority. The use of unremunerated reserve requirements was the main policy instrument of Latin American central banks in the postwar years. In some countries, they were used not only to steer the amount of money in the economy, but also to foster specific economic activities and even to finance the government. The operational design of reserve requirements varied across countries. Typically, legislation established the limits—minimum and maximum—for the rate of reserve requirements and the liabilities to which they were applied, thus allowing central banks to adjust rates within the established range for policy purposes. Legislation also empowered central banks to introduce marginal rates up to a certain level. In addition, regulations defined the eligibility of assets (cash, deposits, securities) that financial institutions were entitled to use to fulfill reserve requirements. By allowing financial institutions to use securities to meet the reserve requirement obligation, banks funded the government and/or financed key economic activities linked to the issuance of the securities (agriculture, industry, and housing). In this case, reserve requirements were remunerated. Legislation also allowed policymakers to discriminate among financial intermediaries when imposing reserve requirements, according to the bank's geographical location (Argentina, Mexico) or the type of financial institution (Mexico). Moreover, the central bank did not always have the mandate to change reserve requirements. Often, the Minister of Finance was directly involved in decisions (Colombia) or had veto power over decisions adopted by the central bank (Mexico). In Peru, the Superintendence of Banks was in charge of handling reserve requirements.

In addition, central banks used controls on credit operations as both a monetary policy instrument and a developmental tool. Such controls were of a quantitative and qualitative

[28] Government intervention and control on financial markets was coined at that time as "financial repression" and was widely analyzed and criticized by McKinnon (1973) and Shaw (1973).

nature. The quantitative controls normally consisted of setting a cap on the volume—or on the rate of growth—of aggregate credit, or on subgroups of credit granted by the financial system. They were aimed at preventing the buildup of monetary imbalances and, more generally, at keeping inflation in check.[29] More common was the use of qualitative controls, which entailed allocating credit by rediscounting commercial banks' paper at the central bank, with the aim of financing "productive activities." Operationally, central banks defined credit quotas on a bank-by-bank basis, according to their level of capital, and assigned different interest rates depending on the loan maturity and purpose of the financing.[30] Interest rate differentials were also established to favor operations of some state-owned financial institutions. Rediscount operations were thus used differently and with a different purpose than in the 1920s and 1930s, when they were the main monetary policy instrument.

Many central banks also devoted significant resources to finance the government. In Chile, the central bank was authorized to openly finance the government and public sector institutions.[31] In most cases, however, legislation established caps on direct central bank credit to the government (Argentina, Colombia, Cuba, Ecuador, and Peru among others), while in a few countries central bank credit to the government was not allowed (Dominican Republic and Guatemala). Nonetheless, in the 1950s these constraints were often lifted.[32] Moreover, the legal constraints were often by-passed by governments including through the specific laws at the time that congress approved the budget (Colombia and Peru, for example). Central bank financing to the government was typically done at preferential interest rates (often negative in real terms).

Reliance on open market operations was not popular in Latin America until the 1960s. Except for the Central Bank of Argentina—which had undertaken open market operations in the 1930s—the region's central banks started to trade securities, though not necessarily with the objective of managing bank reserves and liquidity (like in the U.S. and Europe). Instead, central banks sought to purchase government securities as a means of stabilizing their price and, in the largest economies, with the aim of fostering the development of capital markets. While this objective was not met, several countries did succeed in developing a market of long-term mortgage securities. Aside from this, central banks' purchase of securities became primarily a source of funding for national and local governments, and a source of financing for state-owned development banks, and 'priority sectors.'

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[29] For instance, in 1953 the Central Bank of Chile imposed a cap of 1.5 percent on the monthly rate of growth of banks' credit. In 1955, the cap on the annual increase of total credit was set at 42 percent. These measures were aimed at coping with an inflation that had already exceeded 30 percent (see Carrasco, 2009).

[30] A case that illustrates a policy of interest rate differentials is Colombia in 1957. The Bank of the Republic established a credit program comprised of three groups of operations: Group A provided resources for short-term operations to the agriculture and industrial sectors at a rediscount rate of 3.5 percent; Group B charged a three percent rediscount interest rate on medium-term operations directed at the agriculture sector; and Group C charged one percent below the commercial bank rate to credits of 90 days' maturity without a specific purpose (see Tamagna, 1963).

[31] See Article 39 of Law 11.151, of the Central Bank of Chile, from 1953.

[32] For instance, in Argentina this limit was elevated in 1957 from 10 to 15 percent of the government's last three-year average revenue (Central Bank of the Republic of Argentina, Annual Report, 1957).

Central banks used a wide array of exchange restrictions to channel scarce foreign exchange to priority sectors. In the larger economies, exchange restrictions were in line with the inward-oriented growth strategy, and favored mainly agriculture and domestic industry to the detriment of other economic activities. Common restrictions included import licenses and advance deposits, quotas and prohibitions, licenses for payments of services, taxes charged over the exchange rate for different types of imports, and a surrender requirement of export proceeds to the central bank. These restrictions also served to postpone exchange rate adjustments. Countries preferred to raise tariffs or introduce export subsidies as a way of implicitly adjusting the exchange rate, and devalued the currency only as a last resort. Eventually, countries ended up multiplying trade policy distortions and devaluing their currency more than would otherwise have been the case if the exchange rate had been adjusted on time.

With monetary policy mostly focused on channeling resources to specific sectors, central banks' balance sheets expanded rapidly, in particular in South America. Balance sheets widened, not only as a result of the increase in international assets and liabilities following recurrent devaluations, but also due to the surge in domestic assets and liabilities. For instance, in Argentina, domestic assets rose more than 200 times nominally, and almost tripled in real terms between 1950 and 1970. Similarly, in Peru, domestic assets multiplied by more than 15 times and more than tripled in real terms in the same period. The main drivers of this expansion were rediscount operations to commercial banks in Argentina and credit operations to the public sector in Peru and in Argentina from the late-1950s onward (Figures 6a and 6b).

Figure 6a. Argentina: Composition of Central Bank Domestic Assets
(1950–70)

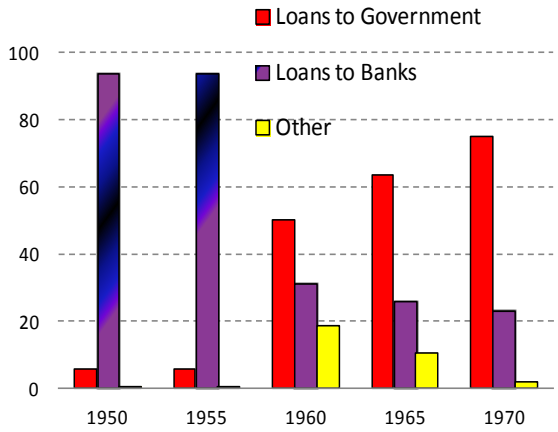
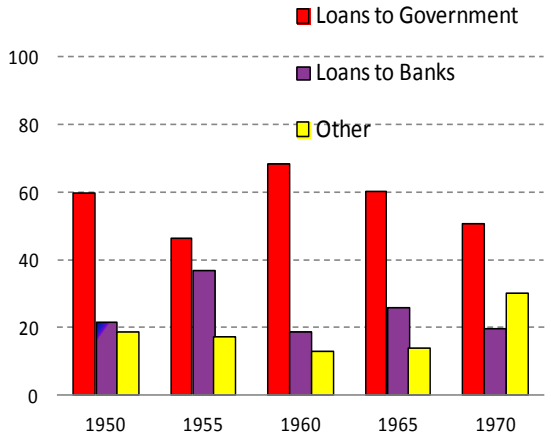


Figure 6b. Peru: Composition of Central Bank Domestic Assets
(1950–70)



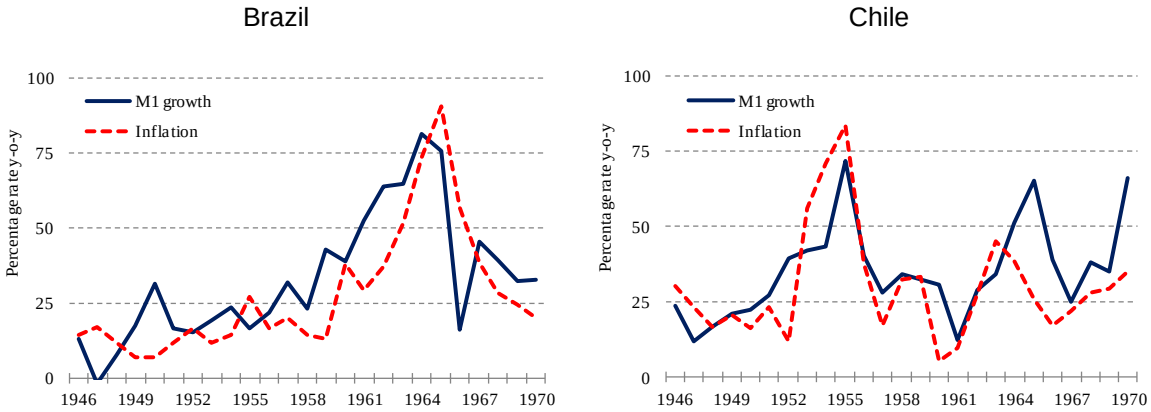
Sources: Annual Reports, Central Bank of the Republic of Argentina and Central Reserve Bank of Peru.

Growing macroeconomic instability

The interventionist monetary policy took its toll on macroeconomic stability. Inflation in Latin America had started to climb since the late-1930s, but it accelerated markedly in the postwar years, in particular in the Southern Cone countries (Argentina, Chile and Uruguay).

The reasons for this increase in inflation were widely debated at the time.[33] With the benefit of hindsight, it seems that monetary policy did indeed play a key role in fueling high inflation. A stylized explanation of the money-inflation link points to the policy of abundant credit for the private sector and the government, as the source of aggregate demand and inflation pressures. Inflation also contributed to the increase in money supply in order to preserve real money balances, thus creating a mutually reinforcing feedback. The close co-movements of inflation and money supply in Brazil and Chile during 1946–70 illustrates this point (Figure 7). It should be noted, however, that high inflation was not a feature in all of Latin America during these years. Some countries, like Colombia, Ecuador, Mexico, and Peru, as well as Central America, managed to maintain inflation at moderate levels.

Figure 7. Money Growth and Inflation in Brazil and Chile 1946–70



Sources: Brazil: Central Bank of Brazil and IGP-DI, FGV for inflation. Chile: Braun-Llona and others (2000).

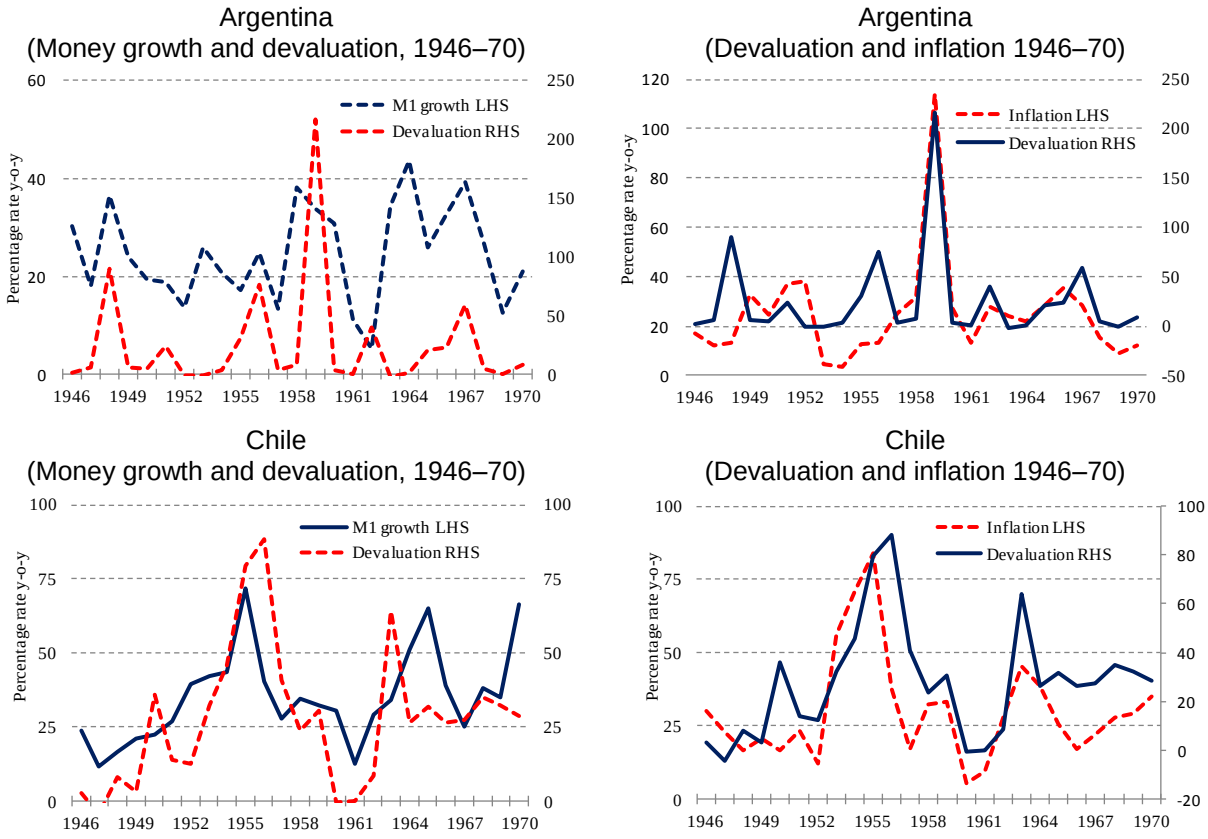
The exchange rate was an important channel of transmission of the money-inflation link during this period. Countries following a development strategy based on import substitution industrialization used expansionary monetary policy to increase internal demand and the demand for imports, fueling an external imbalance. At some point, reducing those imbalances required exchange rate devaluations which had a direct impact on the price of tradable goods, thereby accelerating the pace of inflation.

Thus, the use of monetary policy for development purposes proved to be inconsistent with maintaining the fixed exchange rate regime required by the Bretton Woods system. The balance of payments crises in Chile of the late-1940s and the early-1950s illustrate this point. In this country, the exchange rate was successively adjusted from 70 pesos/US$ in 1952 to nearly 250 pesos/US$ in 1955. In the run-up to this large devaluation, international reserves (measured by total reserves minus gold) had more than halved in 1954. Another example is Argentina, where the peso lost more than 50 percent of its value and international reserves

[33] Two schools of thoughts tried to explain high inflation in Latin America. The first took a "monetarist" approach, highlighting the pervasive role of lax fiscal policies financed with central banks' credit to the government. The second stressed supply constraints, which gave rise to "bottlenecks" in production (e.g., low productivity in the agriculture sector) and created pressures on inflation, and was called "structuralist" school.

declined from US$160 million to US$38 million in 1958.[34] These balance of payments crises contributed to a surge in inflation that topped 80 percent in Chile in 1955 and reached three-digits in Argentina in 1959 (Figure 8).[35] Even in moderate- and low-inflation countries, like Colombia and Ecuador, lax monetary policies made the exchange rate parity unsustainable and, eventually, large devaluations were unavoidable. In Colombia, the large monetization of the economy in the first half of the 1950s fueled a 30 percent devaluation, while in Ecuador loose monetary policy triggered a devaluation of almost 40 percent.

Figure 8. Money Growth, Devaluation and Inflation in Argentina and Chile



Sources: Central Bank of the Republic of Argentina (several issues). Chile: Braun-Llona and others (2000).

In general, there was a tendency to observe that countries with high inflation also had more exchange rate instability, and vice versa. High inflation countries, such as Argentina and Chile, also featured a steady devaluation, whereas single-digit inflation countries, like

[34] In those years, the steady increase in aggregate demand associated with loose monetary policy was often coupled with cost-push policies, such as widespread price controls and real salary increases. Against this background, the exchange rate parity could not be maintained and large devaluations materialized due to the lack of access to external financing because of capital controls and the limited amount of international reserves.

[35] These episodes are illustrations of the first generation models of currency crises later popularized by Krugman (1979).

Ecuador and Mexico had relative exchange rate stability and kept inflation in the single digits. At the same time, Central America managed to keep a fixed exchange rate throughout the 25 years and registered very low inflation.

By the late-1950s, inertia in price formation had become entrenched in the high-inflation Latin American countries. Backward indexation was common in private contracts and wage negotiations. High-inflation countries exhibited hysteresis as most prices in the economy tended to adjust based upon past information, reinforced by expansionary fiscal and monetary policies, making inflation a persistent process. Exchange rate depreciations became common and frequent, creating a vicious cycle. Reducing inflation in those countries thus required a comprehensive approach, addressing not only the lax monetary and fiscal policies, but also the process of price formation and indexation. This turned out to be a difficult and drawn out process in many Latin American countries. Inflation stabilization policies went through a stop-and-go cycle as they were often aborted at an early stage and followed by new adjustment policies. Many of these stabilization processes involved IMF support. During 1954–70, Latin American countries requested 132 Stand-by Arrangements from the IMF, most of them during the 1960s; no other region in the world received as much IMF support. Inflation, however, remained elevated in Argentina (23 percent) and in Chile and Uruguay (close to 30 percent) on average during the first half of the 1960s. In contrast, Brazil made important strides in reducing inflation following a stabilization plan in 1964 that reduced the fiscal deficit and kept wage increases in check. Inflation declined drastically from more than 90 percent to less than 20 percent in 1970.

Adjustable peg regimes (crawling peg) were a byproduct of persistent high inflation in some Latin American countries. Argentina, Brazil, and Chile adopted crawling-peg regimes in the second half of the 1960s. It was a passive regime in the sense that the rate of adjustment was set so as to close the gap between external and domestic inflation. Thus, crawling pegs were aimed at avoiding large appreciations and, hence, limiting the buildup of large current account deficits in an environment of external financial constraints. The new exchange rate regime also favored the elimination of the multiple exchange rates.[36] From a political economy perspective, a major advantage of the new exchange regime was the elimination of the "trauma" associated with devaluations,[37] which often led to social discontent.[38]

[36] For instance, in Chile, the various exchange rates were reduced to only two markets, the official market (known as the "banking market") and the "brokers' market."

[37] The contractionary effect of devaluation was intensively debated between academics at that time. See, for example, the seminal paper by Díaz Alejandro (1963) and Krugman and Taylor (1978) that later formalized this negative impact. However, there was no consensus about this negative correlation. Lizondo and Montiel (1989) showed that the relation between devaluation and output growth is ambiguous, in particular when incorporating common economic features of developing countries.

[38] The negative political impact of a devaluation was common to all developing countries. Cooper (1971) found that following devaluations, 30 percent of governments fell in the next 12 months. Frankel (2005) refined this calculation with a sample of more than 100 countries and found that ministers of finance and central bank governors were 63 percent more likely to lose office within 12 months after a devaluation of 25 percent or more.

B. The Demise of Bretton Woods and its Aftermath

The temporary suspension of the Bretton Woods monetary system in 1971 marked the end of fixed but adjustable parities across the world and the beginning of an era when countries were allowed to choose their exchange rate regime. The multiplication of flexible exchange rate regimes created incentives for a new wave of cross-border capital flows and the enhancement of international capital markets.

Almost simultaneously, a commodity boom took place led by the surge in the price of oil around the mid-1970s.[39] The large oil-exporting countries were forced to recycle their "petrodollars" abroad thereby deepening international capital markets even more. As a result of the enhanced global liquidity, the external constraint for net capitol imports in Latin America and elsewhere was lifted. At the same time, countries started to gradually relax capital controls to become more financially integrated with the major financial centers; the oil exporters of the region, Ecuador, Venezuela, and later Mexico, also benefited from the global rise in energy prices.

Notwithstanding these changes in the global backdrop, the policy objectives of central banks in Latin America did not change. However, central banks in Argentina, Chile, and later Peru had to cope with populist economic policies adopted by their governments.[40] In Chile, monetary policy focused on financing the fiscal deficit, which had reached 30 percent of GDP by 1973 (Corbo and Hernandez, 2005). In Argentina, the direction of monetary policy was no different. The government introduced a far-reaching reform that included the nationalization of the banking system and a new central bank law. The latter implied that monetary policy would be put under complete government control. The central bank provided credit to the private sector under specific government guidance that aimed at "increasing production and at securing the highest standard of living and collective happiness." It also extended credit to the government, which increased almost 130 percent in 1973—well above the inflation rate of about 60 percent in the same year.[41] Argentina and Chile also went back to a practice of establishing multiple exchange rates and using them to allocate current account and capital transactions to different economic activities.

The higher energy prices pushed up inflation in the vast majority of Latin American countries (Table 1). Even oil exporting countries that subsidized the price of energy and were able to maintain a fixed exchange rate experienced higher inflation as a result of the increase in aggregate demand induced by the windfall gains. Inflation also rose in the oil importing economies fueled by the increase in world energy prices. In Argentina and Chile, the

[39] The average real index of energy prices—mostly oil—in the 1970s multiplied by three in comparison to the average of the previous decade (World Bank Commodity Price Data).

[40] Dornbusch and Edwards (1990) define economic populism as those policies that emphasize growth and income distribution and deemphasize inflation and deficit finance, external constraints, and the reaction of economic agents to aggressive non-market policies.

[41] See Central Bank of the Republic of Argentina, 1973 Annual Report.

continuation of populist macroeconomic policies pushed inflation to record highs—more than 500 percent in Chile in 1974 and about 450 percent in Argentina in 1975.

Table 1. Inflation in Latin America in the 1960s and 1970s

(In percent. Selected countries, Average annual rate for the period)

	1960–64	1965–69	1970–74	1975–79
High-inflation countries				
Argentina	23	23	38	228
Brazil	57	31	20	41
Chile	25	25	198	150
Uruguay	27	73	58	60
Commodity-exporting countries				
Colombia	12	9	16	24
Ecuador	4	5	12	12
Peru	7	12	9	44
Venezuela	1	1.5	4	9
Low-inflation countries				
Costa Rica	2	1.5	12	8
Guatemala	0.1	1	7	11

Sources: Argentina and Chile, Braun-Llona and others (2000); Brazil: IGP-DI, FGV; Colombia: Banco de la Republica, 1990 and IMF, International Financial Statistics; Costa Rica: ECLAC, Ecuador: Central Bank of Ecuador (1997); Guatemala: ECLAC, Peru: IMF, International Financial Statistics; Uruguay: IMF, International Financial Statistics; and Venezuela: IMF, International Financial Statistics.

First attempts to rein in inflation

In the mid-1970s, with new governments in power, central banks in the Southern Cone countries shifted their focus to abating inflation. Central bank efforts were an integral part of the new government's programs aimed at restoring markets and improving resource allocation. Key elements of those programs were lowering the fiscal deficit and reducing inflation, opening the capital account, lowering import tariffs, and lifting controls on interest rates. Initially those programs relied on tightening money growth; the strategy, however, proved insufficient to break the inertia embedded in long-standing inflation. Adjustment policies were eventually unsustainable, as inflation declined more slowly than expected and with high output costs.

In search of a more effective alternative, the Southern Cone countries decided to adopt exchange rate-based inflation stabilization programs. The new policy regime was aimed at breaking inflation inertia by using the exchange rate to anchor inflation expectations, given the close link between devaluation and inflation typically observed in small open economies. These countries introduced the so-called "tablita," Chile in February 1978 and Argentina in December 1978, which consisted in pre-announcing a crawling peg, specifying a daily decreasing pace of devaluation. Despite some initial success, the "tablita" program fell short of expectations and ultimately was also not sustainable. While macroeconomic stabilization was initially encouraging and growth rebounded, these results did not last. Neither inflation nor interest rates declined at the same pace as the pre-announced rate of devaluation. As a result, the domestic currency became increasingly appreciated while capital inflows swelled,

leading to large external imbalances and to a rapid increase in credit, which was funded to a great extent from abroad. Chile abandoned the "tablita" in mid-1979 and fixed the exchange rate until mid-1982, followed by successive readjustments, whereas Argentina kept the "tablita" until April 1981, when the central bank devalued the peso and adopted frequent discrete adjustments.[42]

The crises of the early-1980s and the lost decade

The large capital inflows that poured into Latin America in the second half of the 1970s sowed the seeds for the simultaneous currency, banking, and sovereign debt crises that materialized in the early-1980s. As in the Southern Cone countries, capital inflows contributed to fuel demand and economic activity, but had adverse macroeconomic and financial consequences. Both the private and public sectors increased their liabilities in foreign currency, the fiscal and external current account deficits grew while the real exchange rate appreciated. The new external financing also boosted banks' credit, often provided in foreign currency to firms and households with earnings in local currency. Thus, credit risks increased, heightening banks' vulnerabilities.

The rapid and large increase in interest rates in advanced economies in the early-1980s was the trigger for triple crises in most of Latin America. As interest rates soared in the U.S. and the U.K., capital flows reversed to the advanced economies putting pressure on reserves and the exchange rate. But the currency crises did not come alone. The surge in foreign interest rates and currency devaluations multiplied the value of the private and public sectors' liabilities. Banks' borrowers had trouble repaying their loans, nonperforming loans surged, and banks' equity declined. To make things worse, international banks decided to reduce their exposure to the developing world, in particular Latin America, following Mexico's announcement in 1982 that it would not able to service its debt. This exacerbated not only domestic banks' problems, but also governments' finances, as they were required to cancel their foreign debts, thereby giving rise to sovereign debt crises.[43]

The financial crises of the early-1980s had a devastating effect on many countries in Latin America. In Argentina, banks with a 16 percent market share of total assets and finance companies representing 35 percent of total assets had to be intervened while the exit from the "tablita" took the peso/U.S. dollar rate from about 2 to 7.7 in 1981 (Balino, 1991). Chile suffered an even deeper crisis, as the government had to take control of financial institutions representing one-third of the financial system's total portfolio in 1981 and of another 45 percent in 1983 following a devaluation of almost 90 percent in 1982 (Velasco, 1991). Uruguay also experienced a major crisis as a group of banks with a 30 percent market share were intervened, liquidated or taken over, while the currency was devalued by more than 100 percent in 1983 (Campanero and Leone, 1991). In Peru, two large banks failed in 1983

[42] Many reasons have been given for the failure of the "tablita" experiments, but the large fiscal deficits in Argentina and the backward indexation in Chile seem to have been the main factors. For a comprehensive analysis of the "tablita" experiments see Corbo (1985) on Chile and Fernandez (1985) on Argentina.

[43] The Latin America debt crisis has been extensively documented. See, for example, Sachs (1991).

and nonperforming loans increased markedly in the rest of the system, while the exchange rate depreciated more than 100 percent in 1983 and 1984 (Laeven and Valencia, 2013). Central banks were at the center of the policy response to cope with financial crises. While fiscal adjustment was the central component of the demand management programs in all countries to help reduce the external disequilibrium, central banks had to make exceptional efforts to contain banking crises and avoid a financial meltdown. Broadly speaking, central bank actions focused on assisting ailing banks, restructure the financial system, and supporting borrowers. In assisting troubled banks, LOLR support was the first line of defense. However, the pre-crisis regulations proved insufficient and special legislation was enacted to establish additional credit facilities and/or to expand the coverage of LOLR in order to cope with large deposit withdrawals. Central banks' assistance to the financial system went even farther, with the aim of strengthening banks' balance sheets.[44] To help restructure troubled financial institutions, central banks typically provided credit to support mergers and acquisitions,[45] or directly purchased substandard loans at par value.[46] In order to help borrowers, a wide range of measures were granted, including *inter alia* sectoral credits to banks, lines of credit to restructure borrowers' debts, and debt swaps by which central banks refinanced firms' and households' external liabilities. This entailed granting banks domestic currency loans at longer maturities and acquiring from them the corresponding foreign exchange liability.[47]

The large devaluations and disorderly stabilization efforts made it impossible to keep servicing external debt. The simultaneous currency, banking, and sovereign debt crises took a large toll on the Latin American economies. Inflation accelerated across the region; Argentina, Brazil, Mexico, and Peru reached three-digit inflation year-on-year and even traditionally low-inflation countries, such as Costa Rica and Ecuador, saw inflation rates in excess of 50 percent. At the same time, economic growth took a hit and became negative in most countries as illustrated by a simplified measure of output losses in Figure 9, which also shows that it took several years for countries to bring back output growth to the pre-crisis long-term trend.[48]

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[44] For instance, in Chile, the central bank extended credit to banks at ten-year maturity charging five percent real interest rates. At the same time, banks were required to purchase central bank securities that paid a 12 percent real rate, including grace periods for capital and interest payments (see Velasco, 1991).

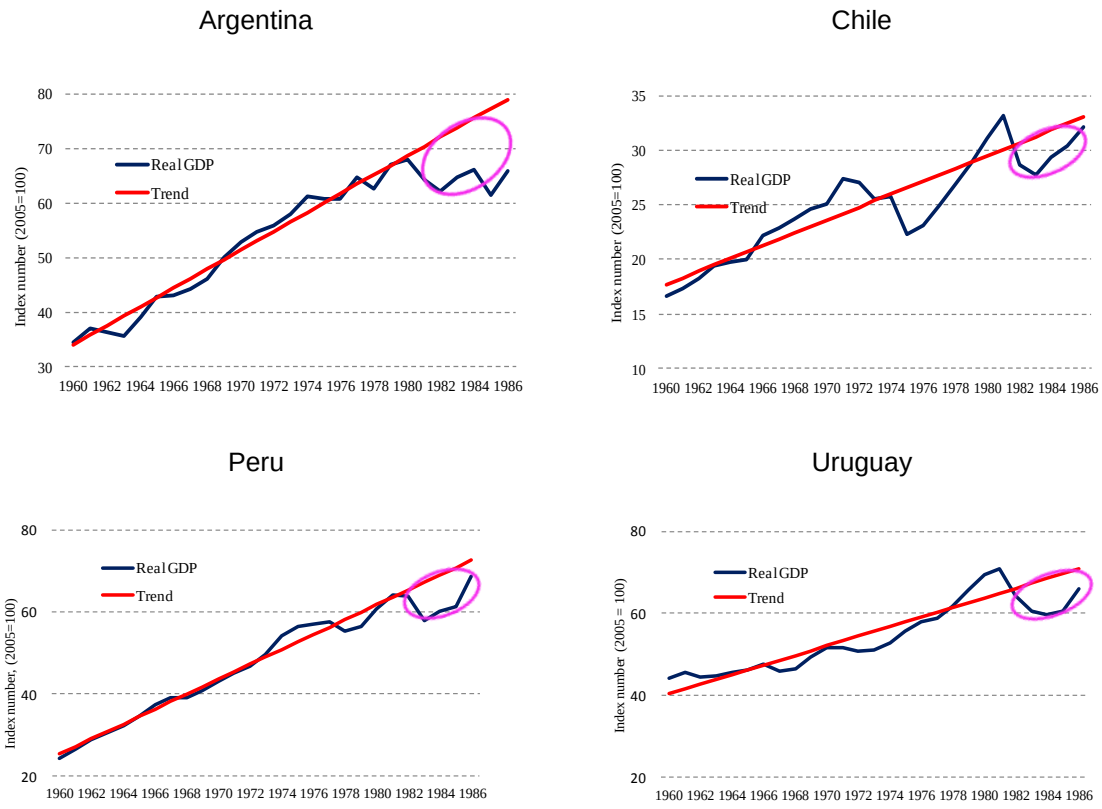
[45] In Argentina, a special line of credit at below market interest rates was established in 1980 and later expanded (see Balino, 1991).

[46] In Chile, the central bank purchased at par value substandard loans up to 150 percent of each bank's capital. To limit the monetization impact, the beneficiary banks were required to pay back emergency loans previously granted (see Velasco, 1991).

[47] Cases in point are the "voluntary refinancing scheme" in Uruguay, which allowed debtors in agriculture, commercial, and industrial activities to refinance their debts at five-year maturity (Campanero and Leone, 1991), and the "sucretization" scheme in Ecuador, where the central bank refinanced foreign currency debts at longer periods and transformed them into domestic currency (Jácome, 2004).

[48] The decline in output shown in Figure 9 captures the effects of the financial crises, but other factors may have also played some role, like the contractionary effect of the adjustment measures adopted to restore macroeconomic equilibrium.

Figure 9. Banking Crises in Latin America—Output Losses and Pre-crisis Trends
(Early-1980s financial crises, selected countries)



Sources: IMF, International Financial Statistics.

The debt and financial crises of the 1980s left the Latin American countries a legacy of high economic costs and widespread social unrest. In response, policy makers considered that implementing an orthodox stabilization policy, if anything, would deepen welfare losses. Thus, several countries adopted so called "heterodox" approach, which supplemented demand management measures with income policies, especially price and wage controls. The Austral plan in Argentina, the Cruzado plan in Brazil, and the Inti plan in Peru adopted in the mid-1980s are the main examples.[49] In all these cases, monetary policy played a secondary role.[50] Fiscal adjustment, in turn, relied primarily on containing rises in public sector wages. In practice, fiscal policy turned out to be the "weakest link" as governments were unable to sustain the adjustment momentum, thus leading to the reversal of the initial progress.

[49] See a discussion of these and other "heterodox" stabilization plans in the collection of papers compiled in Bruno and others (1988) and Bruno and others (1991); see Lago (1991) for a discussion of Peru.

[50] Three main features characterize these stabilization programs: (i) the use of income policies; (ii) a monetary reform; and (iii) the adjustment of public finances. Income policies involved establishing price controls, including on the exchange rate and wages, and breaking wages' indexation to stem inertial inflation. The basis of the monetary reform was the introduction of a new currency that substituted the old devalued currency. In addition, central banks avoided tightening monetary policy as it would lead to high interest rates and thus to output costs and unemployment.

Another legacy of the early-1980s crisis was a large external debt overhang, which hindered countries' economic recovery. Because of the rise in interest rates and large currency devaluations, and due to several years of economic contraction or recession, the burden of the debt increased relative to GDP, and several Latin American countries were not able to service their external debt. Thus, the U.S. government approved in 1985 the Baker Plan, which was aimed at refinancing the external debt in the context of an IMF economic program. However, since no debt relief was envisaged, the debt burden became a drag on economic recovery, making it increasingly difficult for countries to keep servicing the debt. The subsequent Brady Plan (1989) recognized this failure and proposed mechanisms for debt reduction, which helped the recovery of the economies in the following decade.

The 1980s has been coined as the "lost decade" for Latin America. Average growth was just above one percent, which was the lowest compared to the preceding 50 years and negative in per capita terms. Moreover, by 1990 average inflation hit a record high of about 500 percent year-on-year, as large countries like Argentina, Brazil, and Peru featured four-digit rates.

All in all, the "developmental phase" of Latin America proved to be for the most a dark period for the central banks of the region. Central banks were subordinated to governments' developmental goals and were not committed to fighting inflation. Rather, their actions were geared to financing predetermined economic activity, including government spending and keeping interest rates artificially low to favor "an orderly development of the economy." The result was increasing inflation in many countries starting in the late-1950s. During the 1970s, the Latin American economies became exposed to new vulnerabilities as countries received large capital inflows without having in place the required buffers that would allow them to mitigate the adverse impact of sudden capital outflows, in particular on exchange rates, but also on the financial systems and even on the public sector debt. Thus, simultaneous banking and currency crises—the so-called "twin crises" (Kaminsky and Reinhart, 1999)—plagued the region during the 1980s pushing inflation higher, in some cases to hyperinflation ranges.

IV. THE GOLDEN AGE

The 1990s in Latin America marked a turning point for monetary policy. After more than 50 years of burdening central banks with multiple objectives, they were finally granted political and operational independence to focus on abating inflation. One by one, countries accepted that the main contribution of monetary policy to economic growth was to achieve and preserve low and stable inflation—to reduce uncertainty in consumers' and investors' decisions. Breaking with the past, government financing—the main historical source of inflation—was restricted and even banned and, as a result of fiscal adjustment, public sector deficits declined. The structural reforms implemented from the second half of the 1980s onward also helped to improve resource allocation keeping inflation low.[51]

[51] Corbo and others (1999) illustrate the improvement of public finances in Latin America during the 1990s. In turn, Lora (2001) analyzes Latin American structural reform achievements, and Jácome and Vázquez (2008) provide empirical evidence about its positive impact on inflation.

Monetary policy was gradually transformed in the 1990s. The reform involved approving institutional changes and establishing a policy framework consistent with the objective of achieving price stability. However, the road to price stability was bumpy. Financial crises re-emerged, fueling bouts of inflation. Central banks eventually managed to anchor inflation expectations and achieved the longest period of price stability ever in Latin America.

A. New Institutional Foundations

In a region battered by decades of high inflation, a comprehensive monetary reform was necessary. All Latin American countries, except Brazil, approved new central bank laws—starting with Chile in 1989—throughout the 1990s and early 2000s.[52] Central bank independence was the backbone of this reform as a way to avoid the inflationary bias stemming from political influences on monetary policy.[53]

Although the scope of the new central bank legislation varied across countries, it had four common elements:[54] first, a new central bank remit was established giving them a single or primary objective—fighting inflation (see Box 4). To minimize the chances that a future law would dilute the focus on price stability, countries like Chile, Colombia, Mexico, and Peru enshrined the new mandate in the constitution. Second, central banks were granted political independence to formulate monetary policy with the aim of untying monetary policymaking from electoral calendars; the new laws called for the central bank's board of directors to be independent of the government (and the private sector).[55] In most cases, the reform established restrictions on the removal of the members of the Board, except through procedures whereby the legislative or the judicial branch approved dismissal on grounds strictly codified in law. Third, central banks were also granted operational independence to conduct monetary policy, allowing them to increase or reduce their short-term to tighten or loosen monetary policy without government interference. The new legislation also restricted and even prohibited central banks from financing government expenditure, historically the chronic source of inflation. Fourth, central banks were held accountable with respect to their policy objective.

[52] El Salvador approved new central bank legislation in 1991; Argentina, Colombia, Ecuador, Nicaragua, and Venezuela in 1992; Peru and Mexico in 1993; Bolivia, Costa Rica, Uruguay, and Paraguay in 1995; Honduras in 1996; and Guatemala and Dominican Republic in 2002.

[53] The pioneering papers of Kydland and Prescott (1977), Barro and Gordon (1983), and Rogoff (1985) provided the theoretical basis for central banks' independence.

[54] For a comprehensive analysis of central banks' reform in Latin America, see Carstens and Jácome (2005).

[55] Board members started to be appointed in a two-step process, nominated by the executive power and appointed by congress, with their tenure lasting longer than the presidential term or overlapping with it.

Box 4. A New Mandate for Latin American Central Banks

In the 1990s, all countries in Latin America, except Brazil, enacted new central bank legislation. Central banks' mandate focused on preserving price stability.

Argentina:
Law 20.539 (1992):

- Single objective is to preserve the value of the currency.

Chile:
Law 18.840 (1989):

- Look after the stability of the currency and the normal functioning of internal and external payments.

Peru:
Organic Law 26123 (1993):

- Preserve monetary stability.

Colombia:
Law 31 (1992):

- Preserve the purchasing power of the currency.

Bolivia:
Law 1670 (1995):

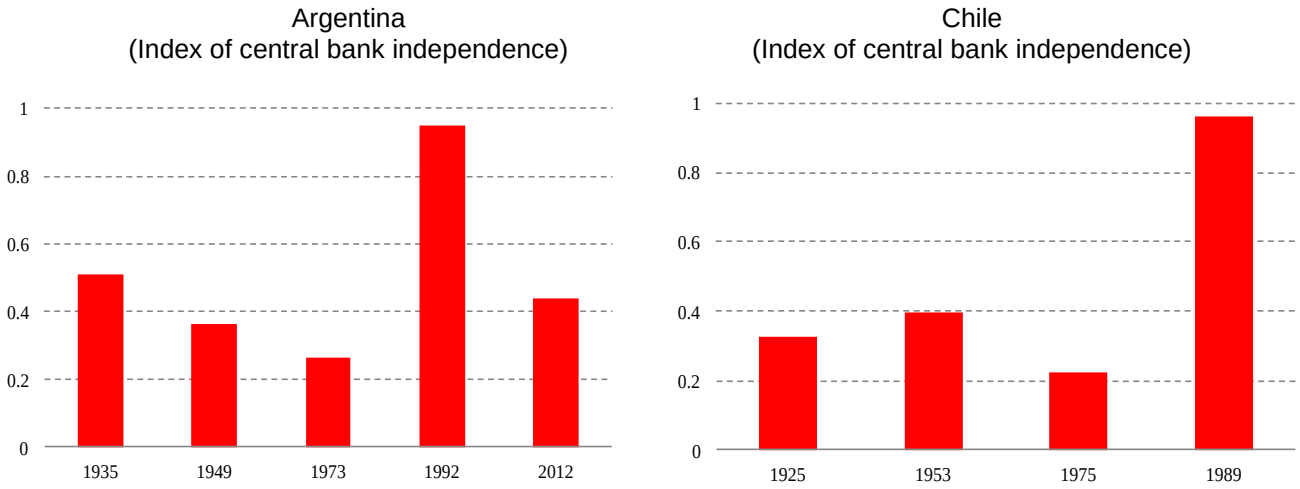
- Preserve price stability.

Mexico:
Organic Law of 1993:

- Primary objective to seek the stability of the purchasing power of the national currency.
- Promote sound development of the financial system and proper functioning of the payments system.

The reforms granted Latin American central banks broad independence both from a historical perspective and by international standards. A modified Cukierman, Webb, and Neyapti index (explained in Jácome, 2015) shows that following the reform of the 1990s there was a marked increase in central banks' independence in Latin America (Jácome and Vázquez, 2008) taking it to a level that is high compared to other emerging markets (Canales and others, 2010). Although the majority of countries in Latin America have used the last decade to consolidate central bank independence, another group, namely Argentina, Bolivia, and Venezuela, B.R., took the opposite direction with the main objective of authorizing the central bank to finance the fiscal deficit and state-owned enterprises. These countries either reformed central bank legislation or included relevant provisions in the yearly budget laws to bypass the restrictions that were in central bank laws. The evolution of central banks' independence in Chile and Argentina illustrates these two divergent paths (Figure 10).

Figure 10. Central Bank Independence in Argentina and Chile since Their Creation

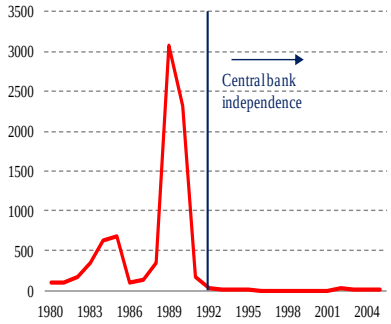


Source: Central banks' legislation (various years). Index of central bank independence as calculated in Jácome (2015, forthcoming); one is the highest.

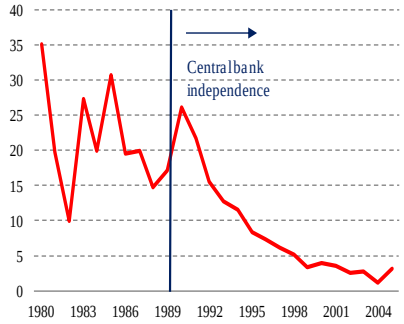
In the years that followed the introduction of central bank independence in Latin America inflation declined across the region. Yet, contrary to conventional wisdom, causality from central bank independence to a decline in inflation has not been established formally (Jácome and Vázquez, 2008). Moreover, causality seems to run in the opposite direction as inflation was already declining before central bank legislation came into effect in most countries (Figure 11). One reason for this is that the inflation stabilization progress in these countries preceded the adoption of central bank independence laws and that it was the early success in stopping high inflation—with the support of sound monetary and fiscal policies and the introduction of structural reforms—which encouraged governments to grant independence to central banks in order to lock-in the progress attained.

Figure 11. Inflation and Central Bank Independence Legislation in Latin America
(Annual rate of inflation in vertical axes. Selected countries)

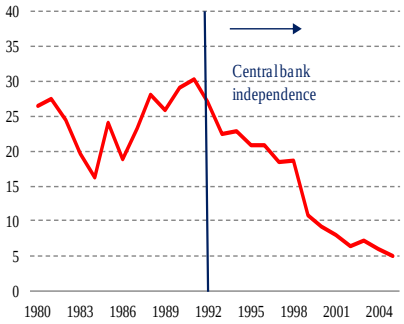
Argentina



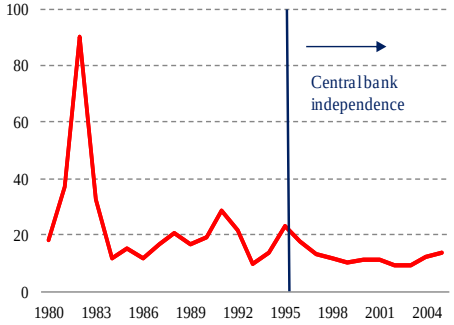
Chile



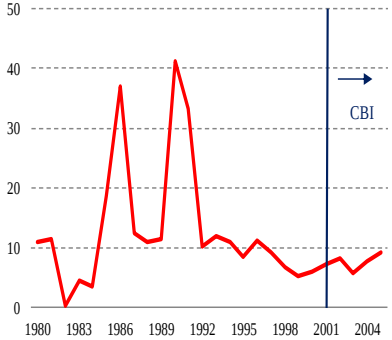
Colombia



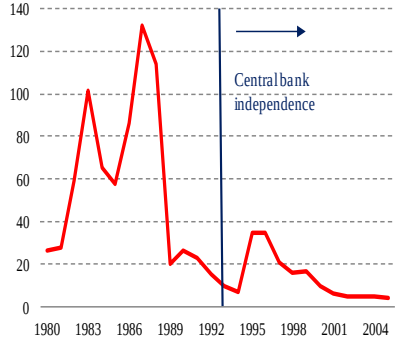
Costa Rica



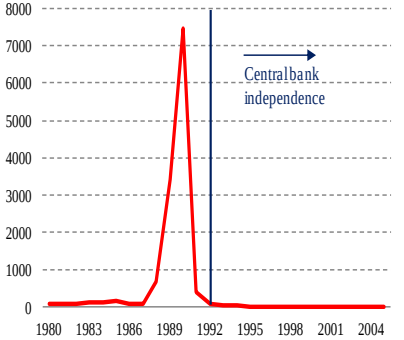
Guatemala



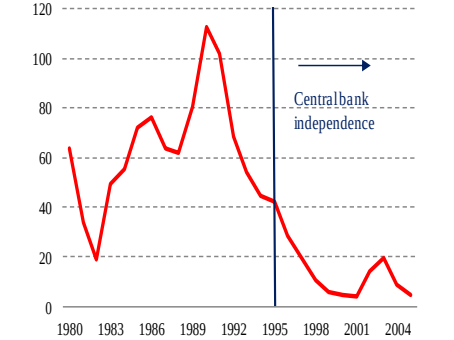
Mexico



Peru



Uruguay

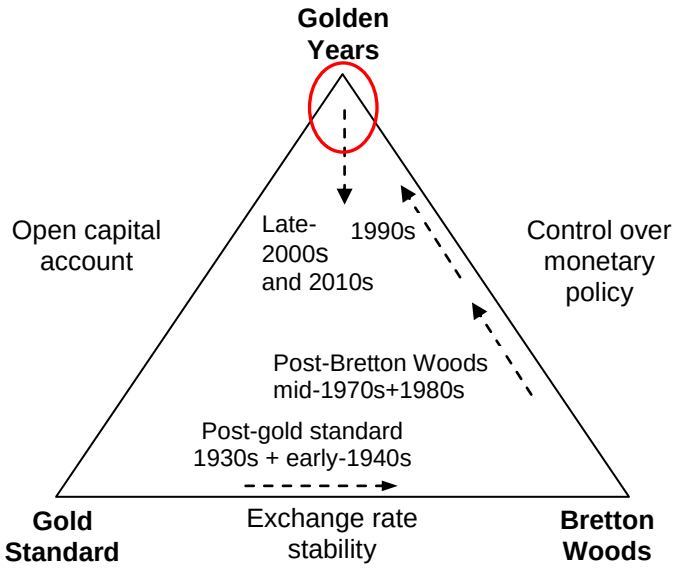


Sources: Countries' central bank legislation and International Financial Statistics, IMF, for inflation.

B. The Early Policy Framework

During the 1990s, most countries in Latin America relied on some form of exchange rate anchor to defeat inflation. Crawling pegs and crawling bands (backward and forward looking against the U.S. dollar) were the most popular exchange rate regimes. Countries, like Brazil, Chile, Colombia, Costa Rica, Ecuador, and Uruguay, had these policy regimes in place. Other countries had a fixed or super-fixed exchange rate arrangement, including Argentina with its currency board and Panama with its officially dollarized economy; only a handful of countries, most notably, Mexico (since 1995) and Peru, had a flexible exchange rate.[56] Exchange rate based stabilization policies, when supported by fiscal adjustments, helped to reduce inflation from close to 500 percent on average in 1990 to about 40 percent in 1995.

Figure 12. Monetary Policy since the 1990s



During the 1990s, exchange rates became somewhat more flexible and the capital account became increasingly open. As a result, central banks started to gain the capacity to control monetary policy.

Building on exchange rate flexibility and an open capital account, the LA5 central banks introduced inflation targeting in the late-1990s and early-2000s. However, by the late-2000s and 2010s, as capital inflows escalated, most of the LA5 countries introduced capital flow management measures, thereby restricting in practice capital flows from abroad.

With exchange rates increasingly flexible and the capital account progressively more open, central banks in the 1990s started to gain control over monetary policy (Figure 12). Central banks undertook financial programming and projected the amount of money to be delivered to the economy given output projections and a target for inflation. Operationally, most central banks used the nominal exchange rate path, or its range, as the intermediate target and the international reserves as a buffer to absorb shocks, and the short-term interest rate as the operational target. As money and interbank markets became deeper, and financial markets more competitive and more integrated internationally, open market operations became more common to conduct monetary policy. Central banks in the largest countries also started to perform systemic liquidity management to steer short-term interest rates and maintain control over monetary aggregates. In addition, they often intervened in the foreign currency market in order to preserve the exchange rate anchor.

[56] See the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions, 1995.

C. A New Round of Banking Crises

While central banks were still setting up their new institutional foundations and a monetary policy framework, a new wave of banking crises hit Latin America, putting at risk the progress achieved in reducing inflation. Foreign capital had returned to Latin America in the early-1990s following the restructuring of external debts—under the rules proposed by the Brady Plan. As typically happens, capital inflows appreciated real exchange rates, boosted banks' credit, and led to new—and often risky—financial transactions. However, prudential standards did not keep pace with the large increase in credit operations and were not adjusted to cope with financial innovations and the heightened risks incurred by banks. As a result, financial vulnerabilities grew unchecked. The combination of financial and capital account liberalization and weak prudential regulation and supervision sowed the seeds of systemic banking crises.

This new wave of banking crises took place from the mid-1990s to the early-2000s. In the mid-1990s, Argentina, Brazil, Mexico, and Venezuela experienced instability, and toward the late-1990s it was the turn of Colombia and Ecuador. Later, in the early 2000s, Argentina (again), Uruguay, and the Dominican Republic were hit by large banking crises. While excessive risk-taking by financial institutions was at the root of these crises, exogenous shocks that brought to the surface underlying financial vulnerabilities were often the trigger.

Since most countries were ill-prepared to contain large deposit withdrawals and lacked bank resolution mechanisms, confronting banking crises became, as in the past, a central bank responsibility. The financial reforms undertaken in most countries during the early 1990s, had not set up safety nets, as appropriate provisions for prompt corrective actions and efficient bank resolution mechanisms were absent in most countries. As a result, central banks were called upon to provide ample LOLR assistance—beyond the traditional approach of supporting illiquid banks—to pay insured deposits and finance bank bail-outs (Jácome, 2008).

Central banks' response to these crises implied a large-scale monetization. Central bank claims on banks, granted directly or through the deposit insurance/guarantee agencies, rose more than 20 times in some countries (Dominican Republic, Ecuador, Mexico, and Venezuela, B.R.) during the 12 months that followed the eruption of the crises. While these money injections helped to contain the run on deposits, it also financed the higher demand for foreign currency from depositors that wanted to protect their savings. Countries defended the exchange rate by selling international reserves, but only up to a point. Eventually, domestic currencies plummeted and countries suffered a second round of twin crises. In some countries, administrative measures, such as freezing of deposits, rescheduling the maturity of time deposits to longer periods, and capital controls, helped to prevent, or postpone, a financial meltdown.[57] But these measures were not always sufficient: Argentina had to abandon its currency board in 2002, and Ecuador had to adopt the U.S. dollar as its legal tender in 2000.

[57] The experiences of Venezuela in 1995 (Garcia, 1997), Ecuador in 1999 (Jácome, 2004), and Argentina (De la Torre and others, 2003) and Uruguay (De Brun and Licandro, 2006) in 2002 are good examples.

The 'monetized' resolution of the banking crises took its toll on the Latin American economies. After major progress in decelerating the pace of inflation, currency depreciations across most countries inevitably led to bouts of inflation.[58] Also, as had happened before, the higher interest rates brought about by the rise in inflation, together with the impact of devaluations, made it impossible for some countries to service their external debt. In particular, Argentina, the Dominican Republic, Ecuador, and Uruguay underwent a triple crisis—banking, currency, and the sovereign debt. The widespread uncertainty associated with the unraveling of banking crises and weak government finances had an adverse impact on aggregate demand and on economic growth. In contrast, Argentina in the mid-1990s and Colombia in the late-1990s managed financial crises without resorting to central bank money on a large scale and rather relied on stronger institutional arrangements to cope with banking crises.[59] As a result, inflation did not increase, but growth was inevitably hit, in particular in Argentina, because where aggregate demand was negatively affected by soaring interest rates and the currency board in place did not allow currency depreciation, which would otherwise have boosted exports and growth.

Latin American central banks drew important lessons from this new wave of banking crises. They learnt that exchange rate pegs tend to exacerbate the severity of crises. They multiply their adverse effects on crises as they eventually end up in a currency crush, thus fueling runaway inflation and a surge in interest rates, and adversely affecting the already weak financial system. Central banks also learnt that high levels of international reserves are an insurance policy that helps to deter or tackle attacks on the currency. More importantly, countries recognized the importance of enacting appropriate financial legislation and of equipping supervisory authorities with legal powers to conduct bank resolution.

D. Moving to Inflation Targeting

As inflation declined to single digits in the late-1990s and early-2000s, Brazil, Chile, Colombia, Mexico, and Peru—the so-called LA5—introduced inflation targeting.[60] In most cases, exchange rate targeting had been abandoned in the wake of fiscal and/or banking crises and exchange rate flexibility had been introduced.[61] Monetary targeting was discarded as money demand had proved to be unstable, making money and inflation uncorrelated in the short run.[62] Therefore, the LA5 decided to introduce inflation targeting, as some advanced

[58] Jácome and others (2012a) provide empirical evidence in favor of the notion that that large monetization fueled additional macroeconomic instability in Latin America during periods of banking crises.

[59] The deposit guarantee institution played a major role in confronting the crisis in Colombia and purchase and assumption operations were applied in Argentina. Peru is another example of a banking crisis contained at an early stage without using central bank money (Jácome, 2008).

[60] Hereafter I will refer to these five countries as the LA5.

[61] While in 1995 five countries in Latin America had in place some form of floating regime, by 2005 this number had doubled (IMF's Annual Report on Exchange Arrangements and Exchange Restrictions).

[62] A few countries moved in the opposite direction and adopted the U.S. dollar as legal tender (Ecuador and El Salvador in the early 2000s). Intermediate exchange regimes that target the exchange rate lose popularity, although they still exist primarily in Central America (Costa Rica, Honduras, and Nicaragua).

economies had already done—Australia, Canada, New Zealand, and the U.K., among others.[63] Since the inflation targeting experiences in Latin America have been analyzed extensively, only key aspects of this new regime are highlighted below.[64]

Fundamentals and operational features

Inflation targeting has been rationalized using new Keynesian models featuring only nominal rigidities, in which stable inflation delivers also stable output—the so-called "divine coincidence."[65] In these models, monetary policy only needs to target inflation to improve welfare. The policy framework, in turn, is based on four pillars: first, a mandate for achieving price stability coupled with central bank independence; second, a forward-looking approach, which directly targets projected inflation—often within a tolerance band; third, a short-term interest rate, the so-called policy rate, whose changes are transmitted to prices and output, via exchange rate and interest rate channels; and fourth, accountability and communication with market participants.

Inflation targeting is a policy framework that is simple and easy to understand by the public and the markets. It is based on a single policy objective (price stability) to be achieved through changes in a single policy instrument (a short-term interest rate). Central banks announce a quantitative target for inflation and, following regular meetings, change the policy rate that sets the price for interbank funding.[66] The policy rate is supposed to increase when actual inflation is trending toward—or is above—the official target and is supposed to decrease when inflation is below target.

The target for inflation has remained the same over time in Chile, Mexico, and Peru; in Brazil and Colombia, in contrast, the inflation target is revised/confirmed every year (see Table 2). Changes in the policy rate are supported by systemic liquidity management and open market operations in order to keep the short-term interbank rate close to the policy rate. Central banks also use standing and Lombard facilities, below and above the policy rate, to offer liquidity absorption and liquidity provision if needed. In addition, reserve requirements are used as a capital flow management measure, in particular in Brazil, Colombia, and Peru.

[63] In Latin America, Guatemala also introduced inflation targeting in 2005, whereas Costa Rica, Dominican Republic, Paraguay, and Uruguay are gradually heading in the same direction.

[64] See, for example, Mishkin and Savastano (2001) and Schmidt-Hebbel and Werner (2002) on Brazil, Chile, and Mexico; Gómez and others (2002) on Colombia; and Armas and Grippa (2005) on Peru. Céspedes and others (2013) provide an evaluation of the experience of inflation targeting in these five countries.

[65] See Woodford (2003) and Blanchard and Gali (2007).

[66] The Bank of Mexico used initially a quantitative operational target—the "corto," which was a target for bank reserves—and only shifted to the short-term interest rate in 2008. The Reserve Central Bank of Peru started using the aggregate balance of banks' reserves at the central bank, and switched to the interest rate in 2003.

Table 2. Key Parameters of Inflation Targeting Regimes in the LA5

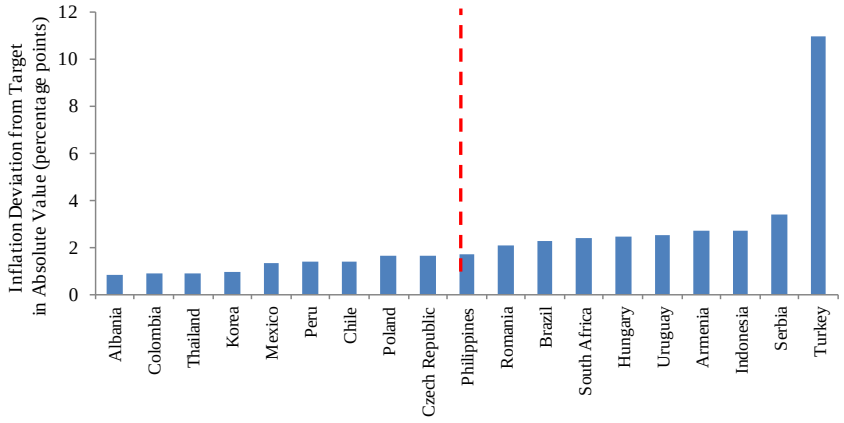
	Inflation target (in percent)	Who decides the target	Revisions of inflation target	Time span for bringing inflation back to target	Report to the congress
Brazil	4.5 ± 2	G + CB [a/]	Every year [c/]	1 year	Yes
Chile	2 - 4	CB [b/]	No revisions [d/]	2 years	Yes
Colombia	2 - 4	CB + G	Every year	1 year	Yes
Mexico	3 ± 1	CB	No revisions	1 year	Yes
Peru	2 ± 1	CB	No revisions	1 year	Yes

Source: Central bank websites. G = Government, CB = Central Bank.
a/ The National Monetary Council (NMC), headed by the Minister of Finance and where the central bank governor is one of four members, decides the target. b/ The Board of the Bank of the Republic, headed by the Minister of Finance decides the target. c/ The NMC (see Appendix 1) sets the inflation target for the end of each year (t) by end-June two years in advance (t-2). d/ The Bank of the Republic of Colombia has a long-run inflation target and reviews annually the target for the following year.

Building credibility

The credibility of the LA5 inflation targeting regimes increased over time as central banks fulfilled their promise and inflation remained most of the time within the target range.[67] In addition, the deviations of inflation with respect to the target were smaller than the median for emerging market inflation targeters (Figure 13).[68] Building up credibility has had a reinforcing effect on the effectiveness of monetary policy, as market participants tend to align inflation expectations with central banks' targets, thereby creating a virtuous circle.

Figure 13. Inflation Deviation from Target in Inflation Targeting Emerging Markets



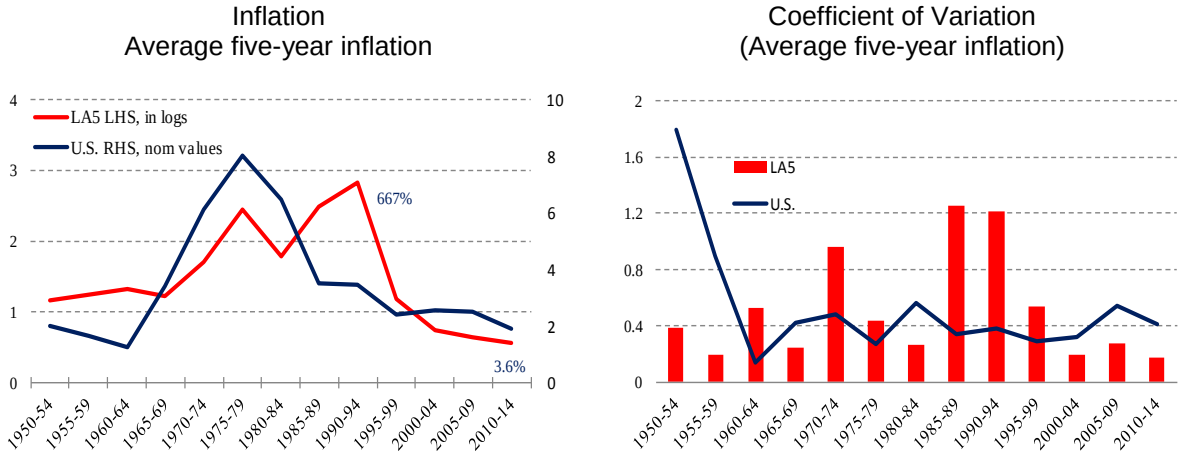
Sources: Central Banks, Haver Analytics, and author's calculations.
Notes: Average absolute value deviation of inflation from target since the adoption of inflation targeting until 2014Q2. Most countries target CPI, with the exception of Thailand (Core CPI), Korea (Core CPI in 2000-06), and South Africa (CPIX until end-2008).

[67] While the Central Bank of Brazil does not enjoy *de jure* independence, in practice, all governments have refrained from influencing monetary policy decisions.

[68] A similar result is obtained when deviations are calculated with respect to the target range.

The LA5 countries attained and maintained low and stable inflation in the 2000s. Their previous history of endemic inflation makes this a major achievement. In fact, the period since 1994 has been the longest period of price stability in Latin America since the 1950s, although inflation in the LA5 not only has been more stable than in the past, but even more stable than in the U.S. (see Figure 14). Admittedly, low and stable inflation was only possible because these countries introduced and maintained over time sound macroeconomic policies, in particular fiscal policies, and also strengthened their financial systems.

Figure 14. Level and Volatility of Inflation in the LA5 and the U.S.
(1950–2014)



Source: Countries' central banks.

E. Weathering the Financial Crisis: This Time was Different

The global financial crisis of 2008 tested the preparedness of Latin American central banks to manage large real and financial shocks. Based on macro-financial fundamentals that were stronger than in the past and on buffer mechanisms put in place over several years, the Latin American economies and, specifically the LA5, successfully handled large real and financial shocks stemming from the global financial crisis. Central banks supported by its solid institutional underpinnings, weathered well the reversal of capital inflows and made an important contribution to stem subsequent deflationary pressures. The credibility gained by central banks in the previous decade was critical for this achievement. The relatively modest impact of the financial crisis in the LA5 countries constituted a stark contrast to previous crisis episodes.

Before the crisis erupted, the LA5 had benefited from a benign external environment. Favorable terms of trade, low interest rates, and large capital inflows helped countries build up buffers, including large international reserves and lower public debt, which, together with flexible exchange rates, made countries more resilient to external shocks. Countries had also strengthened financial systems by improving financial regulation to require banks to keep strong capital and liquidity positions.

The supply shock that preceded the financial crisis strengthened these benefits but also entailed challenges. The favorable terms of trade induced by the surge in commodities and food prices in 2007–08 strengthened the external and fiscal positions of commodity exporting countries, including the LA5.[69] As a result, international reserves increased, in particular in Brazil and Peru, where the central banks stepped up foreign exchange intervention to limit the appreciation of their respective currency. Nonetheless, the supply shock challenged the central banks' commitment to price stability as inflation accelerated across the region. Inflationary pressures reflected imported rising costs and, in some of the LA5 countries, strong cyclical domestic demand (Brazil and Colombia). In addition, easy external financial conditions contributed to the fueling of domestic demand as well as to appreciation pressures. Initially, most central banks expected that the supply shock would be temporary and would not significantly affect core inflation. However, as the shock became persistent, second-round effects kicked in, increasing core inflation. In response, LA5 central banks reacted swiftly by raising policy rates.[70] In the search for higher yields, capital inflows mounted, attracted by carry trade and reinforced by expectations of persistent exchange rate appreciations. To stem the large capital inflows, Brazil and Peru intervened in the foreign exchange market to moderate appreciation trends. These two countries, plus Colombia, also introduced capital flow management measures (CFMs).[71] The central banks' response had its pay-off. Most of the LA5 countries kept inflation expectations anchored and actual inflation was lower than in other countries in the region with alternative monetary policy regimes.

The closure of Lehman Brothers was a turning point toward worldwide disinflation and recession. They had many elements in common with earlier episodes of crisis. The sudden stop and reversal of capital inflows associated with global deleveraging reappeared. The worldwide recession also led exports to tumble throughout the region. To cope with this crisis, the LA5 central banks played a counter-cyclical role for the first time in modern Latin American history.[72] The credibility of monetary policy and the flexibility of inflation targeting frameworks facilitated central banks' quick and decisive reaction. A counter-cyclical response was possible because the crisis found the LA5 with solid fundamentals in place and financial systems were not exposed to "toxic assets," even though some vulnerabilities existed. Eventually, the LA5 countries weathered the crisis well. Economic activity picked up relatively soon, despite the persistent economic downturn in the U.S., Europe, and Japan. Financial systems also proved to be more resilient, as major financial soundness indicators had already improved by 2010.

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[69] Some countries—mostly in Central America—were hurt by the supply shock as they are oil importers.

[70] The Bank of the Republic of Colombia was the first to start tightening in 2006Q2, and maintained a policy of raising the policy rate (by 400 basis points). The Central Bank of Chile reacted swiftly at the beginning of 2007 and kept raising the policy rate (325 basis points up to 2008Q3). Central banks in Peru, Brazil, and, in particular, Mexico increased their policy rate more gradually, but accelerated during 2008Q2 and 2008Q3.

[71] These measures included differentiated reserve requirements for domestic and foreign currency deposits (Peru), reserve requirements on external borrowing and portfolio inflows (Colombia), and a tax on capital inflows directed to fixed income (Brazil).

[72] See Canales and others (2010) for a comprehensive analysis of LA5 central banks' response.

Box 5. The Collapse of Lehman Brothers and the LA5 Response

Following the fallout of Lehman Brothers, the LA5 central banks focused on providing liquidity to keep their financial system working. Liquidity easing measures were extended in both domestic and foreign currencies to alleviate the stress associated with the sudden tightening of external financial conditions. To provide domestic currency liquidity, most LA5 central banks loosened access to their liquidity facilities. Central banks broadened collateral (Chile and Mexico) and expanded maturities (Chile and Peru) for repos. Peru also set up foreign exchange swaps to inject liquidity in domestic currency. The Bank of Mexico purchased securities (issued by the Institute for the Protection of Banking Savings), mainly to address liquidity problems in mutual funds. A number of central banks also unwind previous increases in reserve requirements. To provide foreign exchange liquidity, central banks created mechanisms to lend foreign exchange and reversed earlier measures to contract liquidity. These mechanisms included foreign exchange swaps (Brazil and Chile) and selling certificates indexed to the U.S. dollar but settled in domestic currency (Peru).

In addition, domestic currencies were allowed to depreciate as capital inflows started to revert. Brazil and Mexico experienced the largest currency depreciation (about 30 percent between August 2008 and February 2009) whereas Peru allowed its currency to depreciate by only 11 percent. Despite these large depreciations, inflation not only remained in check, but kept falling. This reflected in part the worldwide recession but was mostly the result of a sharp in the exchange rate pass-through. In addition, some central banks sold large amounts of foreign exchange. Peru's central bank sold close to 20 percent of its international reserves over a couple of months, whereas Brazil and Mexico sold almost ten percent of international reserves in the same period because of concerns regarding large corporations' short dollar positions.

In early 2009 LA5 central banks started to cut policy rates. Because policy rates had been elevated before Lehman, central banks had room to cut them significantly. However, the pace of monetary policy loosening varied, depending on inflation projections and on each country's position in the business cycle. Monetary policy complemented fiscal counter-cyclical efforts, which were aimed at preventing a prolonged recession like in the industrial world. Central banks also displayed a timely communication strategy. They explained to the markets their policy decisions, stressed that prospects for low inflation and economic recession warranted an unusually aggressive cut in policy rates, and that expansionary policies were needed to preserve normal liquidity conditions.

F. The Aftermath of the Global Crisis

The years that followed the peak of the global financial crisis have been marked by unconventional monetary policies in the major advanced countries. Central banks initially slashed interest rates until reaching the zero lower bound by end-2008. However, at this point, standard monetary policy ceased to operate. In order to keep monetary policy relevant, central banks implemented "quantitative easing," by purchasing private (mortgage backed securities and corporate bonds) and government securities on a large scale. Central banks also implemented "forward guidance" by announcing their commitment to keep policy rates low for a long period of time.[73]

Easy monetary conditions in the advanced economies had implications for Latin America and emerging markets in general. Because of the low return on advanced economies' financial assets, investors mostly focused on buying stocks domestically and also invested in emerging market economies in the search for higher yields. The large capital inflows received by the LA5 countries (Figure 15) not only created pressures for a nominal exchange rate

[73] Joyce and others (2012) offer a comprehensive summary of these measures.

appreciation, but also fueled credit expansion, in particular in 2010 and 2011 (Figure 16), thus feeding potential financial vulnerabilities.[74]

Figure 15. Capital Flows to the LA5 in the 2000s
(Millions of U.S. dollars)

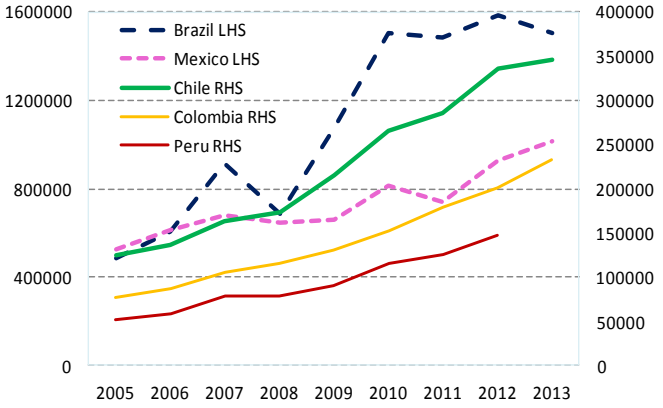
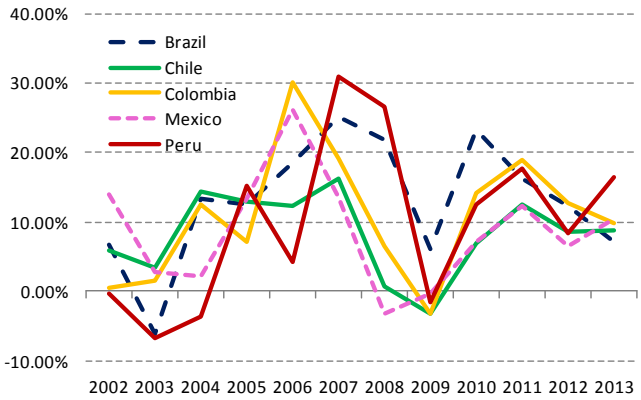


Figure 16. Bank Credit Growth in the LA5 in the 2000s
(Real terms)



Sources: IMF, International Financial Statistics.

Most LA5 central banks were ready to cope with the potential adverse effects from large capital inflows. The central banks in Brazil, Colombia, and Peru introduced or tightened CFMs and/or macroprudential policies to discourage speculative capital inflows and prevent excessive credit growth. Brazil used a wide range of policy measures, such as increases in the tax rate on financial operations for some foreign exchange transactions, higher reserve requirements, higher risk weights for some sector loans, and lower loan-to-value ratios in the housing market. Colombia and Peru, in turn, mostly tightened reserve requirements.[75]

By using CFMs and macroprudential tools, the LA5 countries departed from the trilemma, as maintaining a flexible exchange rate proved to be insufficient to keep control over monetary policy while preventing financial vulnerabilities. Monetary policy executed by the Fed tended to affect their financial and real cycles and thus imposed restrictions on the conduct of domestic monetary policies, including changes in interest rates. Thus, since after the financial crisis, monetary policy in the LA5 countries cannot ignore the accumulation of financial vulnerabilities—typically induced by large capital inflows—CFMs and macroprudential tools have become increasingly popular.[76] On the other hand, the prolonged period of subdued

[74] As documented by Gourinchas and Obstfeld (2012) and other scholars, boom and bust financial cycles typically precede financial crises.

[75] For comprehensive discussions of the recent use of CFMs and macroprudential instruments in Latin America see Terrier and others (2011) and Tovar and others (2012).

[76] Rey (2013) suggests that the trilemma has been replaced by a dilemma as monetary policy remains independent only if countries manage directly or indirectly the capital account, regardless of the exchange regime in place. This hypothesis goes in the opposite direction of the empirical evidence provided by Magud and Vesperoni (2014).

economic growth period in the advanced economies has made LA5 central banks more concerned about economic growth and thus are now characterized as "flexible inflation targeters."

V. THE WAY FORWARD

The analysis developed throughout this paper portrays the long and rocky road that central banks in Latin America went through until achieving price stability. Several countries experienced high inflation, and in some cases even hyperinflation. This outcome was often driven by the multiple mandates assigned to central banks, in particular a developmental role, which required monetary policy to focus on financing economic growth, including funding government expenditures. Eventually Latin America countries chose to assign central banks political and operational independence to formulate and execute monetary policy with a primary—and even single—mandate, namely to preserve price stability and, hence, monetary policy succeeded.

However, the severity of the global financial crisis is tearing down economic paradigms including the role and primary functions of central banks. In fact, several academics have blamed central banks as being partially responsible for not having acted to prevent the crisis.[77] The apparent inaction of central banks has been associated with their narrow mandate, which assigned them limited duties for preserving financial stability. In turn, the aftermath of the financial crisis has raised questions as to whether central banks should be more concerned about growth and employment.

In response, a consensus seems to be emerging about the need to expand central banks' mandates to include preventing the build-up of financial vulnerabilities and promoting employment and growth. To some extent, this is akin to going "back to the future," at least regarding the latter. Thus, learning from history is relevant to avoid making similar mistakes like in the past.

The discussion of an expanded mandate for central banks may find fertile land in Latin America. The idea of assigning to central banks the responsibility for preventing financial crises is likely to gain traction in a region with a history of chronic financial instability. In turn, since inflation is not a major source of concern anymore in most countries, central banks may be asked to put more emphasis in targeting employment and growth. While these additional mandates appear desirable, consideration should be given as to whether central banks can effectively achieve these policy objectives and, moreover, whether expanding central bank responsibilities may undermine their hard-won credibility and the current efficacy of monetary policy. The rest of this section discusses the implications of assigning these other responsibilities to Latin American central banks.

[77] See, for example, the discussion on Turner (2009). Regulators have also been blamed because their focus was on safeguarding the stability of the financial system from an idiosyncratic perspective and did not monitor systemic vulnerabilities.

Central banks in Latin America might be called to play a more active role in supporting financial stability. The additional mandate would likely require that central banks develop a macroprudential policy function and become responsible for monitoring the buildup of systemic financial vulnerabilities and for taking decisions to prevent systemic crises. Giving this responsibility to central banks has clear benefits, but it would also carry costs, and hence it should be carefully balanced. While central banks in Latin America operating under the "Atlantic model" (Argentina, Brazil, Paraguay, and Uruguay) already have a mandate of banking stability, their responsibilities could be further expanded.

Assigning macroprudential policy to central banks would allow countries to harness central banks' expertise in assessing macroeconomic and financial risks and ensure coordination with monetary policy. In Latin America, central banks, like no other institution in the public sector, have the appropriate skills to assess the performance of financial cycles and their interplay with macroeconomic developments. Moreover, housing macroprudential policy at the central bank has merit because its link with monetary policy. These two policies have reinforcing—and sometimes conflicting—effects as changes in macroprudential instruments affect not only financial stability but also aggregate demand, and the same happens with interest rates, which can have a bold impact on financial stability.[78]

However, asking central banks to be responsible for financial stability also presents costs. The high credibility of LA5 central banks is supported by the clear and measurable objective of low and stable inflation. These central banks have enjoyed not only *de jure* but also *de facto* independence to achieve price stability. But policy measures that aim at preserving financial stability affect a wide range of economic activities and market participants. For instance, tightening loan-to-value ratios in mortgage loans may hinder the access to housing of low- and middle-income families. In these circumstances, Latin American central banks may face a public perception that they enjoy excessive economic power that can potentially inflict losses on people's well-being, despite not being run by publically elected officials. Therefore, the "democratic deficit" raised years ago with respect to the inflation-unemployment trade-off would be exacerbated.[79] In fact, this has already been hinted at in relation to macroprudential policies.[80] Against this backdrop, central banks could lose credibility, including for monetary policy, if a financial crisis were to materialize and its independence could come under scrutiny if central banks' performance were to falter under this dual mandate. Central bank independence may be in greater jeopardy if they receive the mandate to manage crisis resolution, with powers to spend tax-payers money. In this case, the government may well require greater oversight of policy decisions and even sit on relevant decision-making committees. As a result, central banks would have to give up instrument independence for the financial stability mandate.

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[78] The interaction between monetary and macroprudential policies is discussed in IMF (2012).

[79] Stiglitz (1998) raised initially this argument.

[80] See Blanchard and Summers (Central Banking, 2013—http://www.centralbanking.com/central-banking/news/2257620/blanchard-summers-warn-on-central-banks-democratic-deficit).

A wider mandate that includes financial stability may also risk undermining central banks' accountability. The reason for this is that financial stability is difficult to measure. What is measurable, instead, is instability—exactly what central banks would aim to avoid. Thus, contrary to monetary policy, where the rate of inflation is a quantifiable measure against which central banks' actions can be gauged, the absence of such indicator for financial stability makes accountability a difficult process. In addition, preserving financial stability involves using a battery of policy tools, which may change over time and even overlap with those used for monetary policy, thus creating additional confusion.

For Latin American countries the challenge therefore is to design institutions and policy frameworks for preserving financial stability that do not undermine monetary policy credibility. Some Latin American countries (namely Chile, Mexico, and Uruguay) have recently established financial stability committees headed by the minister of finance with the aim of overseeing financial systems as a whole and preventing financial crises, but the mandate of central banks has not been modified.[81] However, if such mandate were expanded, because of the leading role of the government in the financial stability committee, this arrangement may create noise on central banks' independence and accountability. Thus, in case a dual mandate is adopted, it would be advisable to dissociate decision-making settings for monetary policy and financial stability so that performance can be evaluated separately. Moreover, it would be necessary to ring-fence monetary policy decision-making structures, so that they are not influenced by external pressures—often associated with financial sector issues—or alternative objectives. As for the use of instruments, ideally, countries should establish in legislation that interest rates are the preferred instrument to target price stability and affect aggregate demand, whereas macroprudential instruments should aim at preventing system-wide financial crises.

The case for making central banks in Latin America responsible for economic growth and employment is less clear cut. In the aftermath of the recent crisis, central banks in major advanced economies have provided monetary accommodation to mitigate the recession and later to make the recovery less protracted. Central banks in Latin America have turned to this policy option only as a last resort and in modest amounts. In normal times, it is currently being discussed whether or not to prolong accommodation and preserve unconventional instruments as part of the monetary policy toolkit, because the Phillips curve does not seem to be relevant anymore in advanced economies (see IMF, 2013). Should central banks in Latin America expand their monetary policy toolkit to incorporate unconventional expansionary policies as a way of boosting growth and employment?

In Latin America, monetary policy is not likely to be a very effective instrument to spur growth and employment. Economic activity is highly dependent on external conductors in the short run, and hinges on structural changes to enhance productivity in the long run. To incorporate growth or employment as an objective for central banks is likely to over-burden their mandate and may put at risk monetary policy credibility. This mandate may also make it difficult to hold central banks accountable in cases when inflation and growth become

[81] Jácome and others (2012b) describe the structure of these committees and their responsibilities.

conflicting objectives. As an alternative, some Latin American central banks have already assigned more weight to output in their policy reaction function and have become flexible inflation targeters, without any explicit broadening of their mandate.

Although less likely, it would be more worrisome if Latin American central banks were to finance economic activity indirectly, including through the government, using an enhanced toolkit of instruments to purchase public and private sector securities. Argentina has already employed this policy, which is akin to going back to the developmental phase analyzed in section III.[82] However, in a world where market participants anticipate changes in the stance of monetary policy, financing the government and the private sector would be interpreted as some form of fiscal dominance and a loss of central bank independence. This would lead to an inflation bias—like in the past—such that monetary policy would need to increase interest rates more in order to achieve the same stabilizing effect.

In sum, Latin American leaders would need to carefully balance the cost and benefits of expanding central banks' mandates. The costs may surpass the benefits if central banks are required to achieve too many goals. While future developments will not necessarily replicate past events, for example going back to high inflation or hyperinflation, central banks' credibility could suffer if they are unable to deliver on their expanded policy mandate. In particular, central banks may not be able to secure high employment and growth rates, which also hinge on microeconomic and structural policies, or preserve financial stability at all times, as no country is immune to financial crises. Policymakers in Latin America should be cautious and avoid overburdening central banks with multiple mandates as this could end up undermining their hard-won monetary policy credibility and, therefore, their ability to preserve price stability.

[82] Venezuela and Bolivia have also approved changes to legislation to allow the central bank to finance the government and/or public enterprises.

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