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Pro-Cyclical Fiscal Policy and Monetary Stability in Brazil, Chile, Colombia, Mexico, and Peru

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Abstract

This paper analyzes the relationship between the financial instability generated by short-term capital flows in the absence of control mechanisms and the restrictions facing the implementation of counter-cyclical fiscal policies in the inflation-targeting regime, using as a springboard the recent financial crises in, specifically, Brazil, Chile, Colombia, Mexico, and Peru, showing how an increase in the issuance of public bonds to, via interventions in the exchange rate market, sterilize the effects of short-term capital flows on the monetary base is a source of endogenous instability, because this mechanism entails risks for the exchange rate and interest rate.

Keywords: Fiscal and monetary policy, capital flows, fiscal consolidation, public debt, inflation targeting.

INTRODUCTION

In the wake of the implementation of the inflation-targeting model, in recent decades in Latin America, economic stagnation has set in, marked by low growth and deteriorating fiscal accounts, adding up to a fiscal deficit equivalent to 3% of the gross domestic product (GDP), public debt level equivalent to 34% of GDP, and the severe volatility and external uncertainty that ensued in the aftermath of the 2008 financial crisis. The situation in which Latin America has become embroiled in recent years evinces two things that characterize the global economy: *1*) the financial instability that short-term capital flows generate in the absence of control mechanisms, and *2*) the inability of fiscal policy to act counter-cyclically, when countries follow the inflation-targeting model, which in turn means being subject to fiscal consolidation.

This research is designed to analyze the relationship between fiscal policy in the context of the inflation-targeting regimes in Brazil, Chile, Colombia, Mexico, and Peru and the evolution of domestic public debt. Likewise, it will show that the increase in the issuance of public bonds to sterilize the monetary effects emanating from short-term capital flows on the monetary base constitutes a source of endogenous instability, due to the exchange rate and interest rate risks implicit in it in the time period 1990-2014.

This document has five sections. The first speaks about how the inflation-targeting regime operates in developing and emerging economies; the second analyzes the conflicts between the objectives of monetary and fiscal policy in the framework of the central bank autonomy; the third offers an overview of the contractive effects on the product resulting from pro-cyclical fiscal policies and fiscal consolidation; the fourth section examines the evolution of the internal public debt as a result of the interaction of them monetary and fiscal policies under the inflation-targeting regime- Finally, the fifth section analyzes the elasticities of the principal components of fiscal policy to determine their impact on the growth of the economies analyzed here.

1. THE INFLATION-TARGETING POLICY IN DEVELOPING ECONOMIES. THE REACTION OF THE EXCHANGE RATE TO EXTERNAL SHOCKS

By 1995, most of Latin America's central banks had achieved administrative independence: Brazil in 1988, Chile in 1989, Colombia in 1992, Peru in 1993, and Mexico in 1994. Some of these central banks worked with a fixed target, like Chile (2-4%), Peru (2.5%±1), and Mexico (3%±1), as other set targets that varied over time, like in Brazil (Jacome, 2001). With that said, the model will be effective and the officials able to meet their inflation targets to the extent that the central bank enjoys the ability to independently choose its own instruments and manage monetary policy. The model's success is also reliant on the technical features of the inflation-targeting regime put into place and the credibility of the individuals carrying out the monetary policy measures.

Between the years 1999 and 2005, the majority of Latin American countries were in the midst of a progressive transformation toward the full-fledged adoption of the inflation-targeting regime, which entailed the following: *a*) Make monetary stability the priority monetary policy objective;[2] *b*) Define and set a target or range for the inflation rate, which means setting a monetary rule;[3] *c*) Adopt a free-floating regime to contain the effects of external shocks; and *d*) Use the

interest rate as the sole instrument to run monetary policy.[4]

In broad strokes, most of the central banks in Latin America adopted controlled floating exchange rate regimes predicated on the prior establishment of a float range for the nominal exchange rate. This is done to prevent major swings in the real exchange rate from impacting price levels and, therefore, ensures the inflation target will be met (Acosta *et al.,* 2009).

1.1 The Reaction of the Exchange Rate to External Shocks in Developing Economies

Against the backdrop of financial instability and economic recession that prompted the foreign exchange and financial crisis of the nineteen-nineties in developing and emerging economies, the exchange rate anchoring policy bore the brunt of a great deal of criticism, as it was considered to generate systemic risks. This led banks to state that they would maintain free-floating exchange rate regimes, and that monetary policy would serve as the anchor of macroeconomic policy and, therefore, that the interest rate would act as the sole instrument to broker between them (Eichengreen, 2006). But, the existence of the high international reserve accumulation and interventions made in the foreign exchange market demonstrated the opposite; in other words, the exchange rate continued to play the role of anchoring monetary policy, even though that spurred severe variations in the level of the product (Ball, 2000) and the appreciation of the real exchange rate.

Figure 1 shows us inflation and the real exchange rate for these economies. It emerges that—in Brazil since 2002, Colombia since 1992, and Mexico after the 1994-1995 crisis—inflation control has been accompanied by persistent currency appreciation. In Chile, inflation has behaved somewhat differently, likely due to the fact that the transfer of inflation through the exchange rate is weaker.

The time period 1990-2014 can be divided into four moments, in which inflation reduction has gone along with currency appreciation: 1990 to 1997, 1998 to 2003, the end of 2008 and early 2009, and 2009 to 2012. Peru has managed to prevent its real exchange rate from appreciating to any significant degree in order to reduce the exchange rate risk, because given its high degree of dollarization, the inflation transfer from devaluation is higher.

(SEE FIGURE 1)

Starting in the year 2000, Brazil and Chile gradually lowered the margin of real exchange rate appreciation, although Brazil allowed it to rise again starting in 2005. Colombia cut the appreciation margin starting in 2003, although it began to let it climb again in the face of inflationary pressures in 2011. For its part, Chile has been the most rigorous in keeping its currency appreciation low; even so, starting in 2009, the margin began to creep up. It is worth noting that these two countries have levied taxes on capital flows and, in the case of Chile, conditions have been imposed related to keeping currency in the country for a certain amount of time. In Mexico, the Central Bank has run a very strict inflation-targeting regime to ensure it would meet the inflation target set at 3±1%. With the exception of the years 1995-1999, the real exchange rate has stayed appreciated, and the level began to rise starting in 2008 (see Figure 2).

Peru is a special case, because it is a small economy and has a high degree of liability dollarization, which has prevented the real exchange rate from appreciating, with the exception of the years 1995-1999, 2000-2003, and 2009-2013. It should be pointed out that Mexico and Peru apply neither direct (taxes) nor indirect (permanency requirements) controls on foreign capital flows.

What is true is that the viability and “success” of the inflation-targeting regimes in developing and emerging economies, in general, and in the five Latin American economies analyzed in this paper, will depend on the stability of the nominal exchange rate, which, as seen here, is in turn driven by the independent management of sterilized interventions in the exchange rate market and the maintenance of high interest rate differentials, the latter to ensure the oversupply of foreign currency.

2. THE AUTONOMY OF THE CENTRAL BANK AND MONETARY AND FISCAL POLICY OBJECTIVES

Under the Bretton Woods system, price stability was all but ensured due to the automatic link between the currency and the United States dollar, in turn pegged to gold. With the collapse of the system in the nineteen-seventies, central banks began to opt for flexible exchange rates or foreign exchange bands. Over the nineteen-nineties, most developed and developing countries reformed the laws and institutional frameworks that had until that point in time governed the functioning of their central banks.

(SEE FIGURE 2)

The adoption of the inflation-targeting regime has turned the objective of price stability and central bank independence into factors that go hand in hand, because under the argument that central bank independence is a necessary requirement to stabilize prices, severe variations in the level of the product and the high unemployment rates that lead to being able to meet the inflation target and fiscal equilibrium are not questioned.

The accumulation of international reserves and the reduction of net internal credit that the central bank grants to the government and private banking have become the main mechanism to stabilize the monetary base in many developed and emerging economies, in general, and the Latin American economies in particular. Even so, this strategy has been unable to impede the appreciation of the real exchange rate.

As can be observed in Figure 3, Brazil, Chile, Mexico, Colombia, and Peru have kept up over the past 15 years the international reserve accumulation strategy implemented ever since their central banks adopted the inflation-targeting regime in the nineteen-nineties. Thus, as the reserves rise, the net internal credit that the central banks grant to the government and private banking decreases, in order to keep the monetary base stable and ensure that the inflation target is met.

2.1 Policy Coordination in the Inflation-Targeting Model and the Anti-Democratic Nature of the Central Bank

Since 1995, there have been few changes in the Latin American central banks' handling of their budgets, exchange rate regime administration, and capital controls policy and implementation. It is to be expected that under the inflation-targeting regime, a central bank would have more legal leeway and efficiency to exercise its autonomy and, therefore, to set its objectives and determine its policies and instruments, and be more effective in controlling inflation than other banks whose independence is more restricted.

The more legal and real autonomy that the central banks of Latin America have, the faster inflation can be controlled, and it tends to be lower compared to countries whose central banks manage multiple objectives, like growing the product and ensuring the stability of the financial system. As a result, the central banks that most "efficiently" reach the inflation target must be obliged to and are in fact responsible for adopting a transparent and timely disclosure policy on the measures and mechanisms that apply to reach their priority objective.

(SEE FIGURE 3)

What is certain that meeting the macroeconomic policy objectives becomes more complex when the handling of the principal macroeconomic variables is in the hands of more than one institution, as is the case for monetary and fiscal policy; the central banks are responsible for operating the former, to the extent that fiscal policy management is run by the ministries or the Finance Secretariat, as is applicable. The real problem arises when the institutions involved fail to coordinate to simultaneously achieve their objectives. When that happens, meeting the policy objective is subordinated to the achievement of other policy objectives or other agencies' objectives, like economic growth and monetary stability.

3. THE IMPACT OF PRO-CYCLICAL FISCAL POLICY AND FISCAL CONSOLIDATION ON ECONOMIC GROWTH

In the wake of the Asian and Russian crises of 1997-1998, Latin American economies enjoyed a slight recovery in early 1999 and mid-2001, as the positive effects from the Asian and European economies beginning to pick up speed again trickled down. Burgeoning trade flows worldwide, in particular, the demand for Latin American exports, drove up commodities and raw materials prices, reflected in better terms of exchange for the majority of Latin American economies.

Toward the second semester of 2001, the global economy began to show signs that it was slowing down, exacerbated by the uncertainty resulting from 9/11 in the United States. When the stock markets began to fall, international trade started to contract and raw materials prices entered a decline, subsequently deteriorating the terms of exchange, especially for Latin America's non-oil economies. Add to that other events in those years in the region, like the financial crisis in Argentina (2001), which had severe fallout for Uruguay, Brazil, and Chile, and the Brazilian energy crisis (2001).

3.1 Trade and Financial Flows and their Impact on Economic Development

Although inflation control and the low public deficit did play a major role in Latin American economic growth in 2003, the reactivation of the global economy was the real fuel that kept this growth burning until early 2008. The recovery occurred against a macroeconomic backdrop marked by monetary stability and fiscal discipline, and the implementation of structural reforms enabling private and foreign local capital to start participating in strategic economic sectors, like energy,

communications, and transportation. Altogether, these factors helped shape positive expectations for growth in the region, in turn attracting massive new inflows of foreign portfolio capital and foreign direct investment.

Generally speaking, since the end of 2002, in an international context marked by low interest rates and expanding external demand for raw materials on the part of China and India, Latin America's central banks made inflation control their main monetary policy objective, leaving commitment to economic growth on a secondary plane. The central banks of Brazil and Mexico have been extremely strict about keeping the inflation rate on target, but it has curtailed GDP growth. For their part, Chile, Colombia, and Peru have faced challenges in controlling inflation, in part because the Chilean and Colombian economies have applied counter-cyclical fiscal measures, and their central banks have been more flexible when it comes to the inflation-targeting regime; in Peru, fluctuating inflation is the result of the high dollarization of liabilities. It is important to note that Peru and Colombia recorded GDP growth rates far above those in Brazil, Chile, and Mexico in 2004-2008 and in 2010-2013 (see Figure 4).

The most severe fallout of the 2008 crisis for Latin American economies was derived from shrinking demand for imports from the global economy; nevertheless, the impact hit economies who primarily export to the developed countries most afflicted by the crisis the hardest. Such was the case of Mexico, whose main export destination is the United States (85%); the negative effect was lesser in Brazil, Chile, and Peru, relatively speaking, because their foreign trade is more diversified, not to mention that a high proportion does go to developing countries. This was the case of Brazil and Peru, whose exports end up in China, too.

(SEE FIGURE 4)

In response to economic contraction in 2009-2011, most of the governments in Latin America tried to boost public spending to mitigate the aftermath of the recession and prevent economic activity from collapsing altogether. Most governments raised public spending on infrastructure investment, programs for business sector support, in particular, for small- and medium-sized enterprises, and social housing as a strategy to restart the economy through the construction sector. However, the multiplicative effects of these expansive fiscal measures were weak and limited because the increase in overall public infrastructure capital spending was small; on the flipside, a high percentage of the increase in current spending was allotted to targeted social programs, transfers, and subsidies for low-income sectors (Valdivia and Pérez, 2013).

Looking at tax policy, counter-cyclical measures were focused on promotion investment and consumption by cutting taxes on income, wealth, and financial transactions, as well as indirect taxes on goods and services (Valdivia and Pérez, 2013).

Figure 5 shows how in the time period 1990-2014, capital spending accounted for approximately 15%, annual average, of total public spending in the five economies analyzed in this paper. However, Chile, Colombia, and Peru ramped up capital spending starting in 2008 as part of a counter-cyclical fiscal policy to confront the recessive effects of the 2008 international crisis. Peru's government has kept flexible reins on fiscal policy, not only raising the proportion of capital spending, but also constantly growing current spending, with the exception of 2000 and 2006.

It is worth nothing that Chile and, to a lesser degree, Colombia, until the year 2000, prescribed counter-cyclical fiscal measures on the side of capital spending expansion. On the contrary, Brazil and Mexico have adopted pro-cyclical fiscal measures as part of their strategy to meet their inflation targets and keep the primary fiscal deficit low. Comparing the five economies, Mexico stands out for its highly restrictive and pro-cyclical handling of fiscal policy, the result of prioritizing meeting the inflation target. This economy is the most extreme case of the inflation-targeting regime, as monetary stability coexists with low and irregular GDP growth, resulting from pro-cyclical fiscal policy and a low primary deficit but high overall deficit.

(SEE FIGURE 5)

In the five economies studied, the primary fiscal deficit has fallen drastically, and in some years, there are even primary surpluses (see Figure 6); however, the overall deficit has increased rapidly. In the case of Chile, these deficits are somewhat more moderate as compared to those recorded in the other four economies, due in part to the evolution and structure of its public debt. Brazil and Mexico stand out for their pro-cyclical handling of fiscal policy as a measure to ensure that the inflation targets are met and the primary deficit stays low. Even so, the overall deficit has taken off as a result of the issuance of government bonds to complete the sterilization transactions in the foreign exchange market.

Contrary to the differentiated effects of the foreign exchange and financial crises of the nineteen-nineties, the 2008 international financial crisis affected all of the Latin American economies; in addition, its recessive effects have been deeper and more prolonged. However, in spite of this, the region began to recover economically toward the end of 2010, before the rest of the regions affected by the global economic recession. The recovery took place in a complex and contradictory macroeconomic context; on the one hand, the international prices of some commodities and raw materials declined, helping keep inflation down, which, as already explained, had been controlled via sterilized intervention in the market with the consequent appreciation of the real exchange rate. On the other, given that the aforementioned prices fell as a result of declining global demand for exports, the pace of recovery in each economy varied depending on their export structures and export destinations.

What is certain is that the "success" and viability of the inflation-targeting regimes in the five economies examined here depend on the sterilized intervention policy in the foreign exchange market, entailing an increase in internal public debt and the implementation of pro-cyclical fiscal policies. Both policies constitute an endogenous source of financial and economic instability, respectively, which ought to be considered (Mihaljek and Tissot, 2003; Budnevich, 2002).

(SEE FIGURE 6)

4. PUBLIC DEBT AND ITS RELATIONSHIP TO MONETARY AND FISCAL POLICY

Public debt policy ought to respond simultaneously to the objectives of the government and the central bank; nevertheless, when the central bank is autonomous, conflicts between the two can arise. Generally speaking, governments set out to reduce the cost of their liabilities and extend the maturities to reduce the annual debt service and uncertainty on loan restatements. On the contrary, the central banks prefer to place short-term government bonds to effectively confront variations in the market interest rate. In the case of developing and emerging economies, the central banks are required to keep yields up to stabilize their exchange rate (Mohanty, 2012).

Theorists from the New Monetary Consensus (NMC) school of thought assert that to the degree that inflation control eliminates price distortions, it contributes to financial stability, reducing uncertainty about the return on future income flows (McCallum, 2002; Taylor, 1993; Ball, 1999a, 2000). Even if this were the case, the execution and results of the monetary policy will rely in large measure on the type and functioning of the channel by which the policy is transmitted. And, this depends not only on making sure the system of payments runs well, but also on other conditions, like the dollarization of liabilities, the technological dependence of the productive apparatus (Meyer, 2004), short-term external capital flows (Hüfner, 2004), and the existence of oversight and control mechanisms that guarantee that the expansion of the monetary supply translates into more credit for productive activities.

4.1 The Role of Internal Debt in Developing Economies

Over the past decade of the twentieth century, the growth of subnational debt has come to the international fore, as governments from various developing countries, including those in Latin America, enacted major fiscal decentralization reforms as part of efforts toward economic deregulation, of which those related to deregulating and liberalizing the financial and commercial system stand out.

Up until the first half of the nineteen-sixties, the main source of financing for government fiscal deficits in Latin America has been internal public debt; it has thus become the most important segment of their capital markets. On another note, the debt markets in most of the countries were characterized toward the end of the nineteen-eighties by sovereign issuances in dollars sold to investors who were not specialized in emerging markets.

The exchange rate/financial crisis unleashed in Mexico in 1994-1995 is a clear example of the effects derived from sudden capital outflows in the face of financial instability. Aversion to the interest rate and exchange rate risks sparked panic in the international financial markets, which reacted almost immediately by restricting funding to the Mexican government. This pushed the value of Mexican bonds downward, which in turn doubled the risk premiums in just six months. The regional "contagion" effect spread rapidly, even reaching economies whose macroeconomic fundamentals were stable (Calvo, 1993).

In the year 2000, as part of the formal adoption of the inflation-targeting regime and the ramping up of financial system reforms, the global bond issuances in local currency by the largest economies in Brazil and Mexico took off. To that are added the monetary stability and fiscal consolidation that most of the economies in the region began to enjoy; likewise, stable nominal exchange rates and high interest rates, as well as volatility, came along, too Borensztein and Mauro, 2004).

Improved indicators of sustainability (low inflation, fiscal consolidation, and reduced debt in foreign currency), as well as the elevated accumulation of international reserves, resulting from the high interest rate spreads the major Latin American economies began to experience starting in 2000, spurred confidence among local and foreign investor to invest in sovereign and quasi-sovereign bonds, as well as corporate bonds and financial entities.

The development of the Latin American sovereign and quasi-sovereign bond markets has been rather heterogeneous and unequal; it is enough to note that the Brazilian and Mexican markets are the best developed, accounting for 70% of the bonds issued between 2006 and 2011. The capital markets of the largest economies in Latin America are in the same situation, especially the debt segment, as in spite of the momentum experienced in recent years, they continue to be small and rather shallow compared to the markets in the developed countries in Europe and the United States of America, and even in the emerging markets of Asia, which explains why, due to their high liquidity, the international global markets continue to be the main sources of long-term financing for Latin American economies, even Brazil and Mexico.

The reforms made to the regulatory framework for subnational debt in various countries toward the mid and end of the

nineteen-nineties are thought of as a response for the central and subnational governments to deal with their deteriorating public finances brought on by high financial costs and the economic recession resulting from the financial and exchange rate crises recorded in those years. The systemic fallout from the recession resulting from the subprime mortgage sector crisis in the United States combined with the recessive aftermath of the Eurozone crisis not only reduced the pace at which subnational governments took on debt in the international environment by slowing down global economic recovery, but also, and precisely for that reason, brought the sustainability problems several countries were facing in public debt to the fore.

After the foreign exchange and financial crisis of 1994-1995, and more so over the past decade, the subnational debt in Latin America has grown faster than state revenue and the economies themselves. This trend, against the backdrop of low growth in the world economy as a whole, and the economy in the United States, specifically, Mexico's main trading partner, in particular, represents a high risk of default for several Latin American governments.

Figure 7 summarizes the structure and growth of public debt for the five economies analyzed here. Mexico and Brazil experienced a decline in foreign debt and an accelerated increase in internal debt. Colombia saw a more moderate trend, although starting in 2002, the debt rose at a faster pace than in years prior. This debt has evolved in close conjunction with the sterilized intervention policy in the exchange rate, which the central banks of these economies have been implementing to control the fluctuating nominal exchange rate and, therefore, the monetary base.

This increase in public bond issues on the part of the governments of Brazil and Mexico explains why the sovereign bonds of these two countries account for 70% of all of the bonds issued in Latin America. The situation is Chile and Peru is the opposite, where foreign debt represents between 70% and 80%, respectively, but in recent years, in these two cases, the percentage has sunk and the internal debt growth rate has increased.

Under the inflation-targeting regime, the resistance to applying counter-cyclical measures to restart growth via the expansion of domestic demand is predicated on the New Neoclassical Synthesis, which asserts that a fiscal deficit generates inflationary pressures and crowding out of private investment through various pathways. Considering this argument, it seems contradictory for central banks in the developing economies to be in favor of pro-cyclical fiscal policies to keep the primary deficit low, but tolerate rising public debt to intervene in the foreign exchange markets, with the purpose of keeping the nominal exchange rate stable, and the consequent increase of quasi-fiscal and financial costs. In other words, internal public debt issuance is not permitted to finance expanding public spending as a strategy to induce economic growth, but public debt issuance is indeed accepted to sustain the sterilization options in the foreign exchange market, with the subsequent detriment to government revenue due to seigniorage and other quasi-fiscal and financial costs (Mohanty and Turner, 2005; Vargas *et al.,* 2013; Claro and Soto, 2013).

(SEE FIGURE 7)

5. THE REACH OF COUNTER-CYCLICAL POLICY IN LATIN AMERICA

Pursuant to various authors, fiscal policy should behave counter-cyclically; however, fiscal policy in some cases, especially in recent decades in Latin America, behaves pro-cyclically because, as seen in previous sections, it is subject to fulfilling the inflation-targeting models.[5]

This paper has argued that when applied appropriately, fiscal policy does not have to lead to an "expulsion effect," and that in this regard, it can be an effective instrument to stimulate economic growth via aggregate demand. Changes in the level of aggregate demand can quickly be offset using fiscal policy. Fiscal policy in turn can and should be used when the economy needs to raise aggregate demand and when economic resources are being underused. Even when economic resources are completely used, the scope of fiscal policy can affect the amount of capital in the economy (Arestis and Sawyer, 2003; Fazzari, 2003), which can also have long-term and lasting effects.

Under this theoretical framework, the purpose of this section is to analyze the influence and direction fiscal policies have taken in the different phases of the economic cycle during attempts to stabilize the economy in Latin America; to do so, statistical information has been gathered from the ECLAC, Banco de México, the Central Bank of Chile, the Central Reserve Bank of Peru, the Central Bank of Brazil, and the Central Bank of Colombia. A review was conducted of the statistics constituting the primary components of fiscal policy in the countries analyzed. In methodological terms, the work centered on determining the effects of the different fiscal variables that affect the product. To do so, a set of variable elasticities were constructed, like the deficit (fiscal balance), GDP, capital spending, total spending, total debt, and the variable "fiscal impulse," in order to evaluate how the fiscal components displayed different responses and therefore depict the relationship between them and economic growth in the various phases of the cycle.

The effect of the anti-cyclical policies was quantified based on the concept of fiscal impulses, predicated on an analysis performed by Alarco (2006) for the United States, which consisted of measuring the magnitude of real public spending growing above or below the growth rate observed for the real product (GDP). Thus, the magnitude of public spending that exceeds the growth of the product represents a real positive impulse in comparison with private spending and, on the contrary, when public spending grows less than the real product, the balance is negative and reflects a negative impulse or the execution of a policy that is not anti-cyclical, meaning it is pro-cyclical. This was how the "fiscal impulse" variable was calculated for the countries analyzed to portray the positive or negative effect of public spending on growth in the time periods studied.

The following was found for the set of countries studied: the elasticity of the fiscal balance in the face of GDP variations was negative in the three time periods, with its impact greatest in the time period 2006-2014. The fiscal balance had a negative effect on economic growth, considering that this is due to the pro-cyclical policies applied in Latin America starting in the nineteen-eighties, which limited the scope of fiscal policy, preventing the policy from incentivizing economic growth, as can be seen in Table 1.

On another note, the GDP elasticity in the face of changes in capital spending behaved similarly to the elasticity of the fiscal balance, turning out to be negative for the three time periods, although of greater magnitude for the entire period 1998-2014, and also in the periods 1998-2006 and 2006-2014 (-0.08), meaning that the effect of capital spending on GDP does not differentiate in which phase of the cycle a country is in, due in large measure to the sort of pro-cyclical policies applied and because the magnitude allocated to capital spending is very small in these economies.

The GDP elasticity in the face of changes in total spending was equally negative in the three time periods, with the greatest negative impact in the time period 2006-2014, resulting from the increasingly large cuts to public spending these economies were making to adhere to the guidelines of the inflation-targeting model implemented in Latin America starting in the year 2000, whose objective, first and foremost, is price stability.

Analyzing the elasticity of total debt over GDP, it also appears that there is a negative relationship in the three time periods, the largest in the time period 1998-2014, but very similar in the periods 1998-2006 and 2006-2014, leading to the conclusion that just like with what happened with capital spending, the effect of the total debt on economic growth is indifferent the phase of the cycle in which an economy finds itself, because public debt together with public spending and the deficit have lost their margin to act, becoming subjected solely to the stability objective and not to the growth objective, as in years prior, leading to a situation of lower economic growth in these economies.

Finally, looking at the constructed variable of “fiscal impulse” on GDP, we find a negative relationship in the three time periods, greater in the time period 1998-2006 and 2007-2014, pointing to the fact that the fiscal impulse was indifferent to cycle phase, and did not in general act counter-cyclically to the application due to the inflation-targeting model and due to trade liberalization, which prevented the fiscal impulse from having an impact on growth. It can therefore be concluded that enacting pro-cyclical policies, which entails shrinking public spending in times of economic recession, has a negative impact on growth in the time periods analyzed.[6]

Table 1. Impact of Fiscal Policy on Growth: 1998-2014

	Average for Latin America		
Elasticidades	*1998-2006*	*2007-2014*	*1998-2014*
Fiscal balance in response to variations in GDP	-4.20	-5.95	-1.00
GDP in response to variations in capital spending	-0.08	-0.08	-0.09
GDP in response to variations in total spending	-0.39	-0.51	-0.36
GDP in response to variations in total debt	-0.06	-0.05	-7.71
GDP in response to variations in fiscal impulse	-0.02	-0.02	-0.03

Source: Created by the author using the econometric program *Eviews* to calculate elasticities.

The above results reveal four major conclusions: *1*) The countries analyzed here have applied, over much of the time period in question, pro-cyclical fiscal policies, which have helped the region achieve stronger economic growth, because these countries have tended to adhere to achieving stability at any cost as their primary objective, leaving aside economic growth; *2*) Public spending, the deficit, and public debt have lost their power to act, because they have become subordinated to the stability objective, preventing them from acting counter-cyclically beginning with the implementation of the inflation-targeting model; *3*) Economic restructuring predicated on deregulating the external and financial sectors has led to severe growth instability accompanied by repressed inflation in Latin America. This has rested on shrinking public spending, which is a variable that injects momentum into economic activity, and has thus become a mechanism to stabilize the currency and the financial sector; *4*) The internal public debt policy, which years ago played the role of stimulating economic growth through deficit public spending, in the new deregulated economic structure, has come to play the role of protecting the international reserves. The high yields paid for their accumulation, with a clearly anti-inflationary objective, is a sign of that and, in consequence, of the high fiscal cost.

CONCLUSIONS

The effects of the international financial crisis of 2008 and the 2010 Eurozone crisis made clear two severe problems that characterize the current global economic structure: the financial instability generated by short-term capital flows in the absence of control mechanisms and effective regulations, and the sharp restrictions facing the implementation of counter-

cyclical policies under the inflation-targeting regime, as the sole strategy to control inflation. Both problems were exacerbated in the case of developing and emerging economies.

Under the inflation-targeting regime and with central bank autonomy, given that Latin American economies are highly integrated with the international financial markets, the formulation and coordinated operation of monetary and fiscal policies to achieve the objective of long-term stable and sustained economic growth turns out to be impossible, as the economic growth objective is subordinated to the low-inflation objective. On the one hand, the central banks, in their autonomy, have left aside the objective to grow the product and employment, to ensure monetary stability. On the other, fiscal policy management has been constrained by the need to fulfill fiscal equilibrium, because the inflation-targeting macroeconomic model assumes that active fiscal policy generates inflation and spurs crowding out effects.

The empirical evidence demonstrates that the central banks of Brazil, Chile, Colombia, Peru, and Mexico have been able to meet their inflation-targeting goals by, to a lesser or greater degree, anchoring the exchange rate. One sign of that is the sterilized interventions in the foreign exchange market, the high accumulation of international reserves, and increased public debt, in some cases, like in Mexico.

The relative "success" and viability of the inflation-targeting regime in the five economies reviewed here still depends on the sterilized intervention policy in the foreign exchange market and the overaccumulation of international reserves. This monetary strategy constitutes a potential source of endogenous instability, given the exchange rate and interest rate risks it entails.

The analysis of elasticities leads to the conclusion that on average in the region, the fiscal policies applied beginning with the implementation of the inflation-targeting mechanism in public spending, considering the time periods 1988-2006, 2007-2014, and 1998-2014, have been pro-cyclical, spurring weaker economic growth in these countries, given the recurring contraction of public spending, spurring lower growth and economic development, a sign of the negative impact observed in the "fiscal impulse" variable.

In the current international context, characterized by financial instability resulting from volatile exchange rates and interest rates, as well as the slow and irregular growth of the global product, only a macroeconomic policy predicated on coordinating counter-cyclical fiscal measures accompanied by a flexible monetary policy will be able to jumpstart economic activity in the short term in developing and emerging economies, in general.

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[2] There are some exceptions: the Central Bank of Brazil set its priority objective the stability of the financial system. The Chilean Central Bank, in addition to controlling inflation, prioritized making sure the internal and external payments system was running smoothly.

[3] Central banks have applied a variant of the Taylor Rule, which says that the nominal interest rate depends on: observed inflation, the real interest rate, the inflation gap, and the product gap.

[4] The recommendation to adopt free-floating exchange rate regimes has not been followed by all of the Latin American central banks. Rather, far from that, several have continued with a policy anchoring the nominal exchange rate (Stone and Bhundia, 2004; Frenkel, Selody, and Lema, 2009). This is because Latin American economies exhibit high technological dependence and elevated liability dollarization, which complicate the running of an inflation-targeting regime under a free-floating exchange rate, which is why they continue to work with the anchored rate.

[5] Pro-cyclical fiscal policy is characterized by the following: when the economy is booming, spending rises and, therefore, savings are not generated. But in the crisis portion of the cycle, the government reduces spending or increases debt. On the contrary, anti-cyclical fiscal policy is understood as a policy where fiscal authorities cut taxes or boost spending during recessions in an attempt to shorten the recession.

[6] Pursuant to the conventional neoclassical approach, fiscal impulses generate a public deficit and inflation; but this approach forgets that anti-cyclical fiscal policy arises in circumstances in which private-sector economic activity is very low and aggregate demand tends to be lower than productive capacity, leading to deflationary pressures. Only in the case that the fiscal policy impulse is of a significant magnitude would it turn out that the increase in aggregate demand could reduce accumulated stocks, boost production, and lead to pressures on prices, as long as there is no idle capacity; as such, an anti-cyclical policy ought not to be confused with irresponsible public spending on constant growth, without the counterpart in greater public revenue or other non-inflationary sources to finance it.

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