Central Banking in the 21st Century: Implications of Economic and Financial Globalization

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1. Introduction

The recent financial crisis has demonstrated that being a central banker is not an easy task. And, being a governor of an emerging market economy with a fragile institutional framework could be even more complex. A vivid example of this unstable macroeconomic environment and its impact on monetary and financial sector policy is provided by the volatility of the central bank institutional framework.

Emerging market economies and Latin American countries in particular, have a history of higher turnover of the central bank governor compared to developed economies. Between 1995 and 2004, the average term for a central bank governor of an advanced economy was 5.2 years compared to 4.8 years for a central bank governor of a developing country (Crowe and Meade, 2007).

In the case of Argentina, the systematic removal of the head of the central bank is even on another scale. The Central Bank of Argentina has had 55 different governors since its foundation in May 31, 1935, which yields an average tenure below a year and a half (e.g. 1.4 years or a turnover rate of 0.73). On the other hand, the Federal Reserve shows an average tenure of 6.4 years between its creation in 1914 and 2010 (e.g. a turnover of 0.15) (See Figure 1, which shows clearly the differences in turnover between the two countries).

In fact, the intrinsic complexity of economic relations, the changing behavior of the economic structure and the interpretation of the different phenomena by agents, forces monetary and financial policy to be developed in a highly uncertain world.

The current global financial crisis scenario is perhaps the best illustration of the growing weight of uncertainty for conducting monetary and financial sector policy. In the developed world, central bankers are running out of tools while further adjustment is still in the pipeline in a context of credit squeeze and growing unemployment. In the emerging world, the challenges for central banks have shifted non-stop from dealing with strong capital inflows and serious risks of overheating to confronting severe capital outflows and the renewed weaknesses of the global economy. While enough consensus

around monetary policy makers on how to prevent crisis has been reached, we are still in untested waters at the time of overcoming a crisis when it already took place. Uncertainty on the proper timing and extent for using the available instruments and the appropriate weight given to the different monetary and financial policy goals remains significantly high.

The analogy of the car driver is appropriate to describe the monetary policy process. In this analogy, the economy is represented by the car, the monetary authority is the driver and policy actions are taps on either the brake or the accelerator. Accordingly, if the economy is running too slowly, then policymakers cut rates (pressure the accelerator), thereby stimulating aggregate demand. On the contrary, if the objective is to reduce the level of output, then the Central Bank switches to the brake by raising rates.

However, monetary policy-making is far from simple, which renders the previous analogy misleading. First, policy-makers deal with informational constraints that are far more severe than those faced by real-world drivers. The second problem with this analogy arises from the central role of expectations in determining the impact of monetary policy actions. Therefore, if making monetary policy is like driving a car, then the car is one that has an unreliable speedometer, a foggy windshield, and a tendency to respond unpredictably and with a delay to the accelerator or the brake (Bernanke, 2004).

Monetary and financial policy in developed economies during the so called "great moderation period" tended to focus on price stability, with little regard to developments in asset and credit markets. Financial stability was left in the background, perhaps in the belief that it would follow from price stability and that risks could be properly limited by banks' self assessment mechanisms. In contrast, developing countries have long (and painfully) learnt the lesson of the importance of financial stability on macroeconomic performance –as evidence by recurring crises in the 1980s, 1990s and 2000s, in different circumstances, but sharing the substantial role of some sort of financial imbalance. Thus, if only a short time ago monetary policy could be adequately described by a simple "Taylor rule", nowadays a more complex central bank "reaction function" is called for. This entails a rebalancing of monetary policy objectives, putting the proper functioning of the financial system on par with macroeconomic stability. Thus, newer approaches such as quantitative easing, enhanced regulation and

supervision techniques, have taken the stage. In the developing world, we have seen in recent years policy strategies that include foreign reserve accumulation as a form of self insurance, active foreign exchange operations to mitigate excessive volatility, and the use of alternative mechanisms to provide liquidity when needed, recognizing the impact that the dynamics of financial conditions could yield on macroeconomic stability.

The purpose of this paper is to describe how the presence of uncertainty limits the effectiveness of monetary and financial sector policy. The paper also discusses the relationship between the monetary policy and financial stability functions in the 21st century amid global financial challenges. Section 2 briefly discusses the sources of uncertainty on monetary and financial policy. Section 3 analyzes the recent revision of central bank objectives and instruments in the light of the recent financial turmoil while Section 4 concludes with general implications of uncertainty on policymaking.

2. Monetary and financial sector policy under uncertainty

Until recently, the notion of uncertainty was not systematically embedded into the theoretical body of monetary policy. The "world", as defined by a given model, was considered to be perfectly known by decision makers. Consideration was given, at the most, to the notion of risk which, unlike uncertainty, entails knowing the probability distribution function of an event. However, thanks to the contributions made by Walsh (2003), research on the conditions under which the monetary policy develops has underlined uncertainty as a core issue.

Monetary policy decisions are affected by different uncertainty sources. For instance, information problems hinder the determination of the different phases of the economic cycle. In addition, policy makers ignore the exact nature of economic relations and of the equilibrium values of the relevant variables. In turn, economic agents play a critical role when they build their expectations, thus impacting the effectiveness of policy decisions. Besides, the latter is compounded by structural conditions under which both policy makers and private agents must address a learning process about the new environment and modify their behavior accordingly.

The different uncertainty sources are reflected in the specific problems that Central Banks face when designing and implementing the monetary policy. Even more, they restrain the way information is processed and the procedures to determine the most adequate intervention and operation rules.

As pointed out by Sargent (1993), uncertainty can be especially intense in transition economies. In these countries, the "right" model, the value of structural parameters, the transmission mechanisms or the nature of shocks are not accurately known. Under such circumstances, the lessons drawn by agents can sharply increase uncertainty, translating into adaptive responses that alter the economic structure on a permanent basis.

The uncertainty concept inherent to every economy feed one other in the emerging world. Thus, the idea that the uncertainty of the environment is crucial when analyzing monetary policy options does not come exclusively from methodological or epistemological considerations. It also stems from the concrete difficulties faced by policy makers under changing scenarios, which frequently occur, unfortunately, in Latin American countries.

Uncertainty about how the economy really works (about how monetary policy transmission mechanisms operate) leads, on many occasions, to implement a monetary policy more conservatively than if the structure of the economy were known in depth. Emerging countries' uncertainty aversion is evident to some extent in what some authors have called "fear of floating", in relation with the allegedly excessive exchange rate stability (several additional reasons account for this phenomenon of relative stability in the exchange rate, such as the scarce development of heading instruments), while the same phenomenon in industrialized countries is known as interest rate smoothing. An element referred to the Central Bank's credibility (not to appear erratic in the reading of the cycle and, thus, in the modification of the rates) may be behind the interest rate smoothing cycles of rate increase and decrease.

In exploring the policy-makers' task, several papers (such as Levin and Williams, 2003) have shown the significant challenges posed by the analysis under uncertainty. Thus, the authors have emphasized that optimal policies in some countries may perform poorly under different conditions.

This has led to the notion of "robustness": it is highly desirable that monetary policy rules sustain themselves against changes in the economy's behavior. For example, a given policy may be considered optimal and simultaneously have very negative consequences if the true model governing the behavior of the variables differs from the model assumed. Instead, an alternative policy could be somewhat less effective if the economic model coincides with the model undertaken. Simultaneously, it could also be less harmful if the operating conditions go against those initially assumed. Against this backdrop, a second best –though not necessarily optimal under all potential circumstances– could be considered more robust than the first alternative.

Given the incomplete knowledge about some key structural aspects of the economy and the asymmetric distribution of the costs and benefits of specific outcomes, Greenspan has advocated a "risk management" approach for monetary policy definition (Blinder and Reis, 2005).

Under such circumstances, the risk management approach proposes a forecast-based policy, whose purpose is to combine economic models with the opinion of the experts to project scenarios. It is singular because it focuses on the analysis of the probability distribution of economic outcomes. Therefore, low-probability –but potentially harmful– events are included in the analysis. Under this approach, what matters is the distribution of them, and not just the average or most likely outcome, to decide monetary policy actions (Greenspan, 2004).

Consequently, the outcome of a low-probability event with severe adverse consequences may then be considered riskier than the costs of having insured against a contingency that does not occur.

Simple instrumental rules may have a good performance similar to that of much complex "optimal" reaction functions. There is consensus on the fact that pursuing such rules may provide an adequate reference framework for decision-making by monetary authorities. Unusual –and sometimes usual– circumstances require giving a preeminent role to the analysis and judgment of monetary policymakers, in line with the principles of the "risk management" approach. Model-based rules should thus be an important

supplement to the judgment based on the careful analysis of empirical evidence and data, but they cannot replace it.

When designing and implementing monetary policy, it is necessary to take these considerations into account, as well as the characteristics of the local and international macroeconomic environment. Otherwise, the monetary policy will not only be inconsistent but will also become an additional source of uncertainty, as it occurred in Argentina.

Recurrent macroeconomic instability episodes have been one of the most distinctive features of the aggregate operating dynamics of this country. It is not a coincidence that, in the last 25 years, the Argentine economy has been off the dynamic economic stability path (defined as the range between two standard deviations from the long-term trend) one third of the time, against 18% for Australia or 25% for Brazil. These countries are comparable in terms of resources and position in the world; therefore, Argentina is expected to be somewhat symmetrical regarding the impact of external shocks.

These phenomena have been severely harmful for long-term performance and not for free in terms of welfare: excessive volatility is likely to be the main factor behind Argentina's economic stagnation in the last decades of the past century. (See Figure 2)

3. Revisiting the monetary policy and financial stability functions

When designing the monetary policy, it is relevant to consider the fiscal, financial and external conditions of the economy. In economies where society has developed a high risk aversion and the need to prevent the next crisis becomes a priority objective, the demand for macroeconomic policy coordination is more critical. If there are doubts about the inter-temporal solvency of any policy set, the monetary policy conventional room for maneuver can be limited. Likewise, the effectiveness of the traditional tools is affected. For example, Argentina's credit channel is shallow**,** as shown in the last 25 years (See Figure 3).

In Sargent's words (2007), there is no robust monetary regime for an inconsistent fiscal policy. According to Bernanke (2011), the long-run impact of economic policy on growth is outside the province of the Monetary Authority. The Argentine history is revealing particularly underlining the close link between the lack of fiscal solvency and inflation.

Based on a study performed by Sturzenegger and Levy Yeyati (2005), only 50% of the countries that adopted the inflation-targeting model –where there is theoretically no intervention by the Central Bank in the exchange rate market– are effectively pursuing a free floating regime policy. Moreover, after the Lehman Brothers collapse almost all emerging markets with inflation targeting had to intervene in the foreign exchange market to avoid excessive volatility. In fact, the international financial community both at the national and supra-national levels is in a process of revisiting not only central bank goals and instruments but also the whole macroeconomic policy set (Blanchard, 2010).

The monetary and financial policy options are part of an extensive review of the importance central banks should assign to the various goals set, particularly, what role and weight should be given to price stability, output stability and financial stability. The monetary policy paradigm is clearly changing —financial stability has come to play a role it has never played before in the central bank agenda worldwide: it is no longer taken for granted.

In developed countries financial stability has historically been a tool rather than an objective, taking into account the depth of their capital markets. In developing countries, instead, with a long history of recurrent crises, financial stability was already an explicit part of central bank objectives. In fact, financial stability as an explicit goal has been for years very common throughout the emerging world.

There is no unique or generally accepted definition for financial stability. As well, when it comes to making financial stability an operational factor, disagreement among relevant actors arise, something that is somehow different with price stability goals.

On top of that, there is also a lack of available instruments to achieve financial stability, whether it is a developed or emerging market economy. In this regard, one of the key tools is to have a proper financial regulation. This should also be consistent and well-integrated with the monetary policy framework. This means, for instance, developing a macro-prudential framework that could help to link both approaches.

There we have reached a point where economic theory is having a hard time keeping up with praxis. Recent literature has shown results that are ambiguous vis-a-vis to those produced by the usual "technology." As regards the rules implemented via the interest rate channel, in the past 15 years the conventional wisdom was that short-term interest rates could be used to change the whole curve and thus affect economic agents' decisions. Recent work shows that this is not the case and that the impact of short-term rates on real variables is substantially different.

The same applies to the managed floating exchange rate regimes. Empirical studies that refined the analysis started by several academics argue against sharp fluctuations in the domestic currency, mitigating excessive volatility, especially in developing countries with rather shallow capital markets and limited access to hedging instruments. By mitigating fluctuations without disregarding the fundamentals, this approach combines the needs of the various segments of the economy while preserving consistency with the whole of economic policy. Recent literature factors into the analysis segmentation and restricted access to markets. the most relevant conclusions suggest that the narrower the local markets and the fewer the instruments to hedge out currency risk, the better a managed floating exchange rate regime is to maximize social welfare. In a context of imperfect functioning of foreign exchange markets and incomplete capital markets, the adverse effects of a significant depreciation either on inflation or wealth is not negligible. as an example, In Argentina exchange rate volatility is positively correlated with volatility in retail deposits since depositors perceive the increase in volatility as a growing risk of vanishing of its saving's purchasing power (Figure 4).

The experience shows that despite the use of a combination of measures, emerging market economies struggled to cope with the deleterious effects of capital flows. In my view the most important challenge for a central banker in an emerging economy is how to manage the effect of capital flows on the volatility of the exchange rate. We have

experienced very significant volatility, with valuations reducing very rapidly at the time of capital flows reversals and the converse with the resumption of flows. These changes have had no relationship to any macro developments in the respective domestic economies. We have attempted to use various policy measures to smoothen the credit cycle in the face of this volatility, including coordinating banking regulation and supervision with monetary policy making (e.g. prudential measures supplementing monetary measures, forex operations and associated sterilization, to dampen the effect of volatile capital flows on the domestic credit markets) but this is still an ongoing challenge.

In my view, the strengthening of financial system balance sheets through sound regulation and supervision, including the built up of liquidity buffers such as foreign reserves accumulation to face external shocks and the reduced currency mismatches - one of the key sins of the past at least in Latin America- is an effective way to deal with volatile capital flows. The development of a domestic currency capital market is also a corner-stone to allow the monetary and banking system to act as a shock smoother rather than a shock amplifier, proving for financial stability amid volatile capital flows. The monetary and financial framework in place should give priority to avoiding "the next crisis" and build buffers to minimize the effects of disruptions.

However, this is clearly not enough. Coordination between monetary, macroprudential and fiscal policy is critical to deal with capital flows. In particular, the Treasury should play an active role to ameliorate potential destabilizing effects of short-term capital flows as significant volatility in the foreign exchange rate market or domestic financial and monetary markets could become a threat to financial stability. Fiscal policy should not only focus on avoiding becoming an additional source of uncertainty but also should contribute lively to ensure financial stability through all its available tools, including tax, spending and liability management policies.

4. Conclusions

Monetary policy is managed under a high degree of uncertainty about the real economic structure and the way in which specific policy actions affect price evolution and the output level. This is particularly remarkable in emerging economies.

Against a backdrop of high uncertainty, in countries witch are still in transition towards a steady state and trying to overcome decades of a sharp decline, the monetary authority must provide and ensure monetary and financial stability. In the case of Argentina, uncertainty is compounded by a long tradition of macroeconomic instability. Monetary regimes have unsuccessfully gone from one extreme to the other. The periods of relative stability have been short-lived, due to inconsistencies in the approaches that should have ensured macroeconomic solvency.

In these cases, the monetary regime cannot address an excluding objective and ignore the condition of the economy and its vulnerabilities. Therefore, in order to reach long-term, this historical evolution must be taken into account, particularly its effects on the behavioral pattern of economic agents, in addition to the uncertainty factors inherent to monetary policy management.

Building liquidity buffers, including foreign reserve accumulation and the development of a highly liquid and solvent financial system has been an effective tool for emerging markets to withstand the increased volatility of capital flows. The availability of such policies has expanded substantially the room for maneuver in the emerging world, allowing policymakers to act counter-cyclically in order to minimize the effects of external shocks on the real economy. In addition, fiscal policy should play an increasing role in smoothing out the destabilizing effects of sudden movements in capital flows. Fiscal policy should act decisively against shocks to stabilize the foreign exchange rate and the domestic monetary markets. The Treasury and the Central Bank should coordinate the intervention mechanisms and resources to deal with capital flows in order to minimize volatility in the domestic financial markets and avoid threats to financial stability.

In this context, it is crucial to combine the use of models with the judgment of the experts to facilitate a thorough interpretation of economic phenomena. In turn, simple rules may provide valuable information to compare results and determine different policy options.

Figure 1

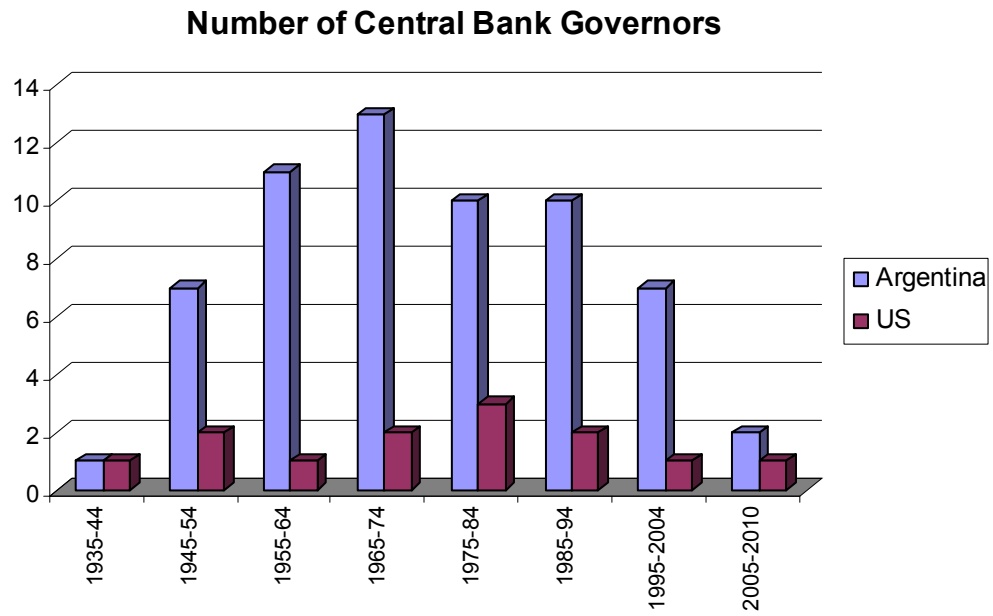
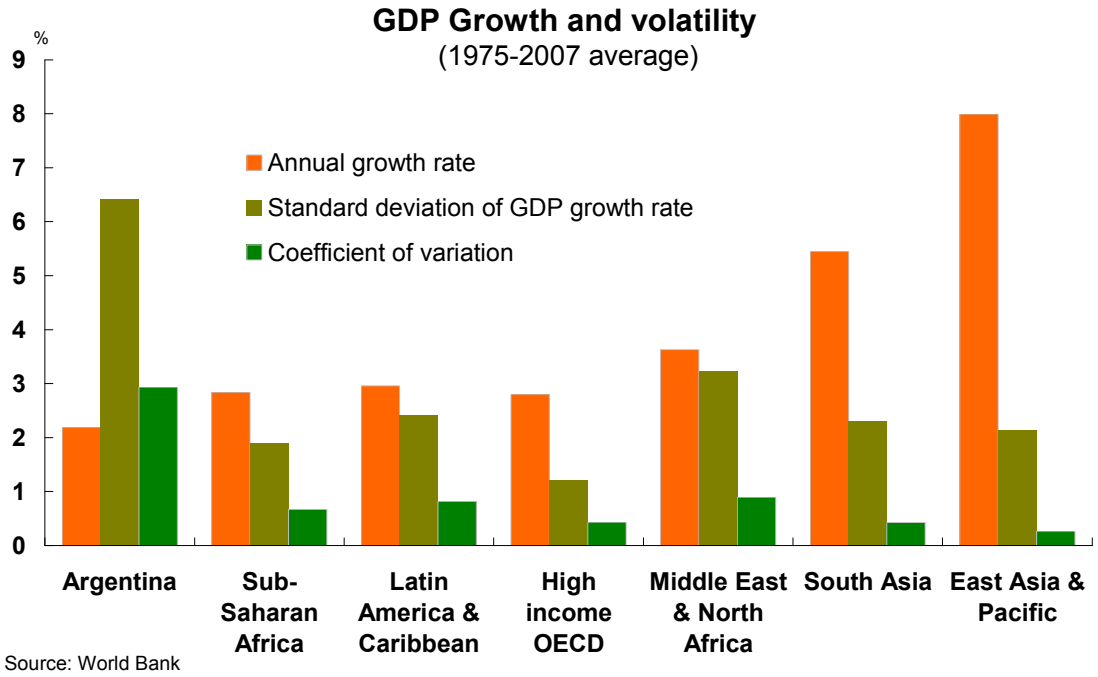


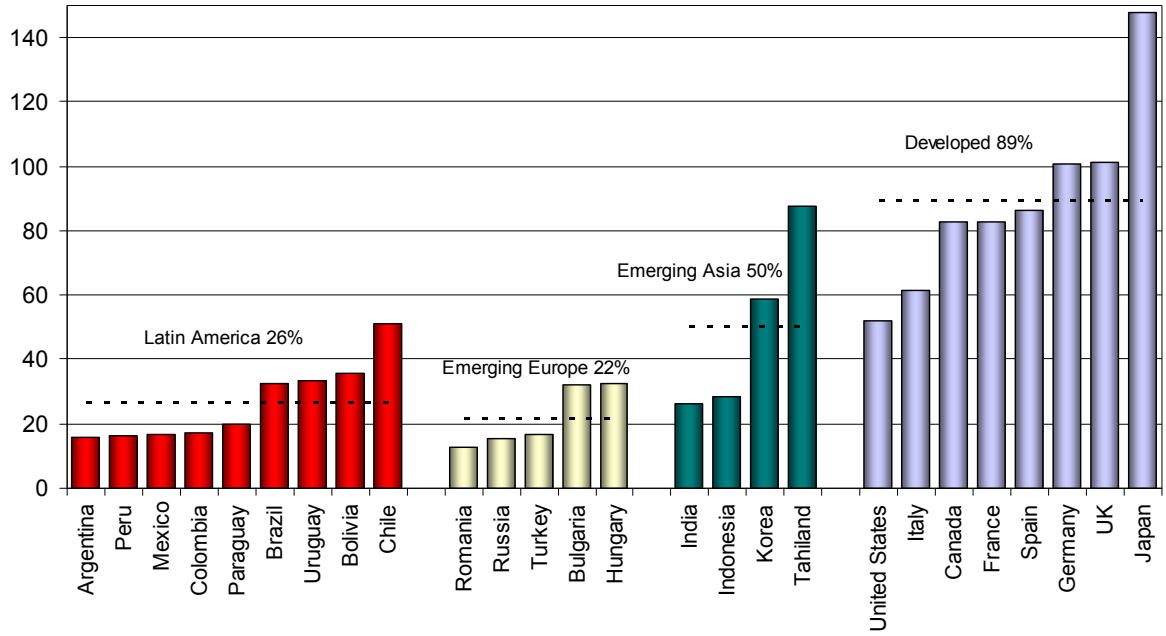
Figure 2



Source: World Bank

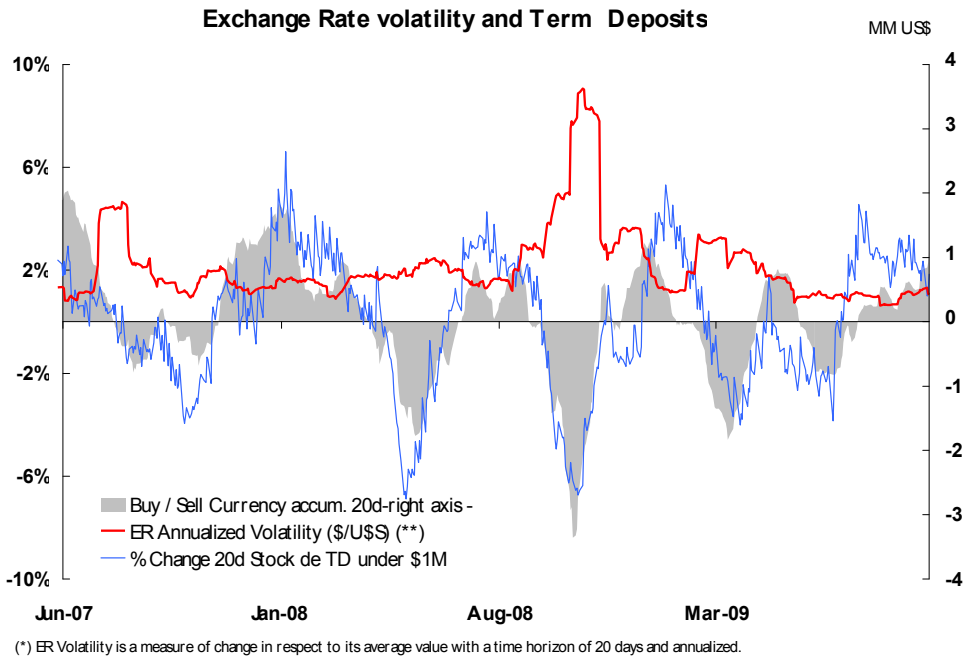
Figure 3

Credit to Private Sector / GDP (1980-2007 average)



Source: made by the author based on World Bank information.

Figure 4



(*) ER Volatility is a measure of change in respect to its average value with a time horizon of 20 days and annualized.

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