CEMLA
CENTER FOR LATIN AMERICAN MONETARY STUDIES

Central Bank Cooperation at the Beginning of the 21st Century

CEMLA 60th Anniversary Conference

60 YEARS
CENTER FOR LATIN AMERICAN MONETARY STUDIES
1952-2012

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Mexico City, July 19-20, 2012

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WHERE IS CENTRAL BANK COOPERATION HEADED?

Javier Guzmán Calafell

Preface

The Conference on Central Bank Cooperation at the Beginning of the 21st Century was held on July 19 and 20, 2012, as part of celebrations to commemorate the 60th anniversary of the Center for Latin American Monetary Studies (CEMLA). On these days, authorities from our associate and collaborating institutions, international organizations and special guests, gathered at CEMLA's offices in Mexico City to debate different aspects of central bank cooperation.

In recent decades the topic of central bank cooperation has become more important as globalization has progressed and financial systems have become more closely interdependent. However, this issue has also gained relevance due to the international financial crisis that broke out a few years ago, given that unprecedented means of intervention and coordination among governments, central banks and international organizations have been required to address it.

The Conference program was aimed at providing both comprehensive view: the topic of cooperation was addressed from both historical and theoretical standpoints, and, above all, from the perspective

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Director General, CEMLA.

challenges that the recent financial crisis represented for monetary policymakers in each country and on regional and global scales.

In order to learn from the lessons of the past, some presentations dealt with the history of central bank cooperation since the 19th century and the most significant moments in the institutionalization of monetary and international financial cooperation processes during the 20th century. In particular, the experiences of cooperation among central banks in Europe, Latin America and the Caribbean, and Asia were analyzed.

In Latin America and the Caribbean, the history of cooperation goes back to 1931 when the first conference of the region's central banks was held. These efforts eventually led to the founding of CEMLA in 1952 and were complemented by the setting up of institutions such as the Central American Monetary Council in 1964, the Latin American Reserve Fund in 1976, and the Latin American Integration Association in 1982.

The current crisis has therefore tested the functionality of cooperation mechanisms around the world. In this regard, the conference emphasized the potential and limits of central bank cooperation in times of crisis, analyzing the coordinated actions taken by some advanced countries during the most critical moments of the financial emergency, as well as the different economic and monetary policy dilemmas faced by advanced and emerging economies as a result of the crisis.

It was repeatedly stressed throughout the Conference that, although coordination and cooperation clearly have positive benefits, specific mandates and particular historical, social and economic environments can sometimes limit central bank cooperation. In fact, the crisis poses very different problems for advanced and emerging countries, and measures for solving problems in one group of countries might translate into sources of vulnerability for others. Thus, increasing the exchange of information, international technical cooperation and, where appropriate, encouraging coordinated actions, constitutes one of the greatest current challenges. Overcoming these challenges will contribute to better preserve the stability of the international financial system.

The Conference was very important for CEMLA. The Center is the oldest monetary cooperation organization and that with the greatest coverage in Latin America and the Caribbean. Throughout its now more than six decades, CEMLA has provided a forum for its members to exchange ideas and experiences, receive update and technical assistance programs, improve the training of their staff, have access to sources of research on monetary and financial matters, and, generally, adopt better practices allowing them to carry out their tasks more effectively.

This Conference, which brought together some of the most important central bank players worldwide, as well as renowned academics and officials from international organizations, made an original and significant contribution to the fundamental topic of central bank cooperation. CEMLA therefore confirmed its role as an ideal multilateral forum for encouraging discussion and fostering consensus for the benefit of central banks.

I would like to thank all those who contributed with their effort, intelligence and experience in order to make CEMLA's 60th Anniversary Conference possible. I would also like to extend this recognition to the long list of institutions and individuals that over the years have given their committed and generous support to the Center's tasks.

Opening Remarks

Javier Guzmán Calafell

Opening Remarks

First of all I would like to welcome you to CEMLA. All of us who work at the Center are very honored by your presence and extremely grateful that you accepted the invitation to celebrate the *first* 60 years of this institution with us.

I am personally very happy to be accompanied by such a special group of CEMLA's friends who have generously given their support in different fields. It would take me too long to refer to each one of you as I would like, so I would just like to mention the presence of those who have been linked to CEMLA for the longest time and continue helping today, be it from official positions or using some of their valuable private time. I am particularly pleased that Miguel Mancera, Jesús Silva Herzog, Andrés Bianchi, Emsley Trump, Mario Bléjer, Jaime Caruana and, of course, the president of our Board of Governors, José Darío Uribe, are with us today.

The choice of the topic "central bank cooperation at the beginning of the 21st century" for this Conference is natural given the focus of CEMLA's activities. Indeed, CEMLA was created in 1952 in an effort

General Director of CEMLA.

to tighten cooperation between the central banks of Latin America through a multilateral body responsible for fostering greater knowledge of monetary and banking matters in the region. Furthermore, besides the aforementioned, discussion of this topic is extremely relevant given the importance that central bank cooperation has acquired in recent years.

Central bank cooperation is not a recent phenomenon. For instance, literature on the topic frequently mentions actions of monetary cooperation as far back as the 19th century. Since then, the strength of central bank cooperation, although fluctuating from one period to another, has generally tended to grow with the support of a process of institutionalization.

In my opinion, two factors have had a fundament influence on central bank cooperation during the last years.

The first is related to globalization. It is evident that monetary cooperation has become more important as the process of global integration has increased. Economic and financial globalization has been one of the main characteristics of the world economy in recent years. This has been the source of innumerable benefits, but it has also been accompanied by new challenges. In particular, the growing interdependence that has resulted from globalization means the economic problems of one country can be rapidly transmitted to others. Moreover, in this context, policy options that are apparently reasonable at the national level are not necessarily so when adopting a global vision. In other words, a highly globalized world presents the typical dilemma of the prisoner, where a non-cooperative approach as opposed to one based on cooperation leads to poorer results for all the parties involved.

The second factor is linked to the financial crisis that continues to affect the world economy. The first phase of the response to the crisis was based on unilateral policies that were insufficient to boost confidence, and which actually turned into a mechanism for worsening economic difficulties. Nevertheless, the ineffectiveness of these isolated actions made it evident that a joint effort was needed. As a result, central bank cooperation measures were set in motion, which due to their complexity and reach were historically unprecedented.

Undoubtedly, much progress has been made in this field under the framework of the crisis. Besides coordinated actions to address the challenges that have emerged during its different stages, measures have also been implemented to strengthen institutional cooperation mechanisms among central banks and between them and other authorities, while allowing at the same time a greater involvement of emerging economies. In this regard it is important to point out the policies that have been implemented under the framework of the G20, the Financial Stability Board, the Bank for International Settlements and the International Monetary Fund, among other forums.

This group of initiatives obviously represents an extremely significant step forward and is clear evidence of the importance given to the adoption of joint responses to global problems. However, the advances that have been made are not sufficient and many questions remain unanswered.

In this regard I would like to make the following observations:

- First, cooperation efforts made up to now have been fundamental in preventing the collapse of the international financial system and its devastating consequences. However, the crisis is not over yet and overcoming it will surely require additional actions of central bank cooperation. Besides political will, the latter will require the correct analytical approaches. And one should expect the next few years to be a period of experimentation for central banks, with enormous theoretical, operational and institutional challenges.

- Second, evidence shows that levels of cooperation increase during periods of high uncertainty. The reason for this is simple: it is natural that in an environment of apprehension and possible contagion, there is a greater inclination toward cooperation as a mechanism for insuring against risk. Thus, the challenge consists of leveraging cooperation efforts made during times of crisis in order to lay the ground for permanent models that make the continuation of cooperation in normal times a priority. The question is whether this objective will be achieved in this current stage. Such doubt is relevant given the political and institutional restrictions limiting the margins for action at the national level. In fact, some international institutions have highlighted how the spirit of cooperation observed during some of the worst moments of the crisis also weakened at some stages.

- Third, it must be kept in mind that central bank cooperation should not be pursued separately from other policies. Monetary cooperation will often only give the expected results when coordinated with actions on the fiscal front and in other areas of the financial sector.

- Fourth, there are areas where the crisis has shown central bank cooperation to be insufficient. In particular, the combination of abundant liquidity in advanced countries and improving economic fundamentals in emerging economies during recent decades has led to an increase in private capital flows toward the latter, although these have been accompanied by a high degree of volatility. This has generated fears regarding the emergence of a new round of excessive exchange rate appreciations and asset price bubbles, or sudden stops in capital flows to emerging economies that lead to episodes of financial turbulence. Authorities in several of these countries have underlined that the underestimation of the collateral damage of such policies reflects the need for greater cooperation among the central banks of advanced economies. On the other hand, it has also been argued that the efforts of some emerging economies to maintain undervalued exchange rates for domestic purposes has led to significant adverse global repercussions.

- Fifth, recent efforts to strengthen central bank cooperation have encompassed global and regional spheres. However, it is not clear to what extent such efforts are attempting to ensure both areas of cooperation complement each other.

I would like to emphasize that the central banks of various emerging and developing economies have been making efforts for several years toward closer cooperation. Some of the most relevant actions have taken place in Asia, mostly in response to the problems faced by the economies of this region at the end of the nineties. Among the measures adopted it is important to mention the so-called Chiang Mai initiative, efforts aimed at fostering regional financial integration, and the creation of mechanisms to improve monitoring of their economies and risk management.

There have also been efforts in this direction in Latin America and the Caribbean. As I already mentioned, CEMLA has fulfilled an important role in this area. Central bank cooperation actions have also been taken through other channels such as the Reciprocal Payments and Credits Agreement of ALADI, the Central American Monetary Council, the Latin American Reserve Fund, the Eastern Caribbean Currency Union, the Brazil-Argentina Local Currency Payment System and the Single Regional Compensation System. Despite the ground covered, there is still much to do in the region, and it seems to me that Asia's experience of monetary cooperation could provide important lessons for Latin America and the Caribbean.

Before I finish this speech, allow me to comment on one topic directly related to CEMLA's activities. As you know, there are several facets of central bank cooperation. One of them is commonly known as technical cooperation, i.e., transferring knowledge, exchanging viewpoints and information, standardizing concepts, filling information gaps, creating communication networks and training human resources, among others. Although this central component of monetary cooperation has been around for many years, it has become more important in recent decades, as reflected by the more active participation of individual central banks and multilateral bodies in this area. As would be expected in an environment where the capacity for economic analysis has become one of the main challenges for central banks, technical cooperation has been further boosted by the international financial crisis. It is therefore particularly important to exchange views on the approaches that different institutions and regions are following to enhance the role of this activity.

I am sure that this Conference will provide us with an opportunity to discuss in depth these and many other current topics related to the lessons to be learned from the long experience of central bank cooperation, as well as the changes we must introduce in coming years in order to properly incorporate such lessons in the work of the central bank community and the bodies these institutions belong to.

Once again, many thanks for being here and for accompanying us at such an important event for CEMLA.

Keynote Address

José Darío Uribe E.

Central Bank Cooperation: A Latin American Perspective

You will understand that I feel very honored and grateful for the opportunity to open the discussions of this Conference commemorating the 60th anniversary of the Center for Latin American Monetary Studies. During all that time CEMLA has organized many activities of interest to our institutions. It is therefore not surprising that the topic chosen for this celebration is central bank cooperation.

Historical Background

These institutions have tended to look for ways of cooperating since the beginning of their history. This seems to be part of their institutional nature. In Europe, the Bank for International Settlements (BIS) was founded in 1930 with the aim of facilitating massive transfers of funds for war reparations imposed by the Treaty of Versailles. However, this institution very quickly became an efficient mechanism of cooperation

Governor, Central Bank of Colombia.

between the monetary authorities of advanced economies. In Latin America, probably the first collaboration effort was the Central Bank Conference held in Lima at the end of 1931 –just a month and a half after the United Kingdom had abandoned the gold standard. As would be expected, on this occasion the delegates discussed the advantages and disadvantages of exchange controls and the outlook for reserve deposits abroad in light of the uncertainty created by the fall in gold. Later came the so-called Central Bank Technical Meetings.

According to the minutes and agendas of these first meetings, for economies of the region, and for so-called *underdeveloped* countries in general, the *experts* did not seem to see a different route than that of imitating, with lags and under very adverse conditions, the economic management models applied –not always successfully– in *first* world countries. Nevertheless, as some of our greatest writers and artists began to demonstrate, the Latin American situation was probably more complex and difficult to manage than that of the developed world, as well as being richer in possibilities and initiatives than was accepted in academic circles of the time.

The first seed of CEMLA was precisely the awareness that the teaching of Economics at the most advanced universities did not take into account many of these particular circumstances and characteristics, making it necessary to more widely publicize and debate the original economic thought such countries were producing. Most of these works were not completely theoretical, but were byproducts of the daily practices of mostly state financial or administrative entities because, if I am not mistaken, there are not many Latin American Economics faculties that are more than sixty years old.

CEMLA as a Cooperation Facilitator

Once the need to improve the availability and distribution of studies on money and banking topics in Latin America was expressed, it was decided to firmly start the establishment of what would eventually become CEMLA. Regarding these events, I found it very interesting to read

Eduardo Turrent's work for a book being prepared about CEMLA's institutional history, which I would like to recommend.

I would therefore like to stop to share a few specific thoughts about what the establishment of this Center meant as a factor for supporting cooperation among its members.

The first is to recognize the vision of central bank leaders in the middle of the last century who were committed to this integration effort from an early stage in the institutional life of their different organizations. The firm support of Mexican economic and monetary authorities of the time for CEMLA's establishment was fundamental in this. Those present today, and our predecessors, are indebted to their efforts and contributions.

The second is related to the conscious effort of the institution's founders to avoid duplicating efforts and to identify tasks that needed to be carried out at a moment when central banks were taking on the responsibilities of development banks. In this regard, the delicate diplomatic movements for establishing the conceptual limits between the activities of the future CEMLA and the mandate and functions of the also recently founded CEPAL, recorded by Turrent, is of historical interest and current practical relevance. Looking back at more than half a century of development of both CEMLA and its associated institutions, we can see that the non-duplication of tasks has fostered an institutional framework that, in many ways, has encouraged the concentration of bank activities on topics directly related to monetary, exchange and credit policy.

Thirdly, it is good to see how many of the advances which were only ambitions of CEMLA 60 years ago have become established over time thanks to the joint work of the institution and its affiliated organizations. One outstanding aspect is that the motivational tone of this collaboration shifted from being a way of overcoming limitations to becoming an opportunity for supporting ourselves with the recognized strengths of colleagues and counterparties. For instance, recitals of CEMLA's creation make constant reference to the obstacles arising from the difference in language, limitations in the academic capacities of the staff and severe financial restrictions. Luckily such obstacles are part of the past.

Finally, it is interesting and relevant to see how cooperation proposals involving the creation of ambitious and complex multilateral bureaucratic entities have gradually made way for pragmatic collaboration initiatives with well-defined time horizons, better determined objectives and a healthy awareness of the need to obtain maximum benefit from the public funds involved.

In sum, during the years CEMLA has existed it has been a useful platform for continuously examining the activities of college banks (and institutional best practices), and for this reason it has been a valuable support for the distribution and acceptance of the basic principles of central bank governance in many of our countries. I have no doubt that the activities promoted by the Center throughout these years have had an impact on the modernization of monetary authorities in the region and, therefore, on the noteworthy progress made in the fight against inflation, a phenomenon which is increasingly less associated with economies of the region.

Cooperation and Macroeconomic Stability

Within the wide spectrum of possibilities for mutual support between central banks, the greatest benefits are undeniably obtained from one of the apparently most simplest of cooperation mechanisms, that of sharing information on the different experiences in exercising our activity. This task, which seems elementary, is the main motive behind the periodic meetings organized by CEMLA and our challenge is to make such occasions increasingly more productive, dedicating its subject to topics that effectively contribute to achieving and maintaining macroeconomic stability. Avoiding a nation's monetary and financial instability is not only the concern of a country's citizens, but also increasingly that of its trading or investment partners.

A progressively globalized world probably makes ensuring financial stability more complex; for instance, cross flows of trade and investment that have been generated in the region during recent years have led us to unprecedented levels of integration and interdependence. This implies innumerable possibilities for growth and improvement in the living standards of large segments of our populations, but it can also largely increase the costs of the crisis. If we consider, for instance, some of the challenges that emerge from new types of interaction between economies, challenges demanding active global cooperation among economic authorities.

In fact, as part of their deleveraging and restructuring processes, developed countries' financial institutions have sold some of the assets and businesses they held in emerging countries. In many cases the buyers have been the latter countries' financial institutions, implying new challenges for the supervisory and regulatory bodies of our countries. In the case of Colombia, for example, we have seen that today national financial groups control financial intermediaries and pension fund administrators in several Latin American markets. Our regulations and our supervisory model were mainly formulated for a scenario where foreign agents owned part of the local financial system, but not for the situation I have just described.

Among the concerns surrounding this new phenomenon we can mention the following: Do we have timely and adequate information on the liquidity, credit and market risks faced by Colombian banks abroad? Do we fully understand the regulatory frameworks and financial protection models applied in the countries where they have invested? Can we properly estimate and consolidate the currency mismatches Colombian intermediaries might face once we take into account their assets abroad?

It is of course a relevant topic for the countries receiving the investments as well as for the investors' places of origin. Receiving countries have to recalibrate, among others, their control instruments, their liquidity-providing facilities and their mechanisms for supporting institutions in difficulty. On the other hand, the originating countries have to properly reevaluate the vulnerability of their financial system and evaluate the fiscal, exchange and monetary implications of this new exposure. In both cases a new channel of contagion arises which must be properly understood and monitored.

We are therefore facing a situation where the property of many emerging countries' financial entities may be in the hands of agents whose control and supervisory bodies, in their countries of origin, might be prepared for acting in the domestic environment but do not have either the experience or the resources to face systemic risks on a regional scale. This is an issue that demands committed interaction between the authorities of different nations, and I believe it is a field where cooperation through CEMLA could be beneficial.

Of course, there are many fields related to financial stability where we could improve the exchange of ideas and experiences with the help of CEMLA. For instance, I am sure that in several of our banks early warning indicators have revealed financial imbalances or vulnerabilities. Or work has been carried out to identify crisis transmission mechanisms, both domestic and external, or systemic risks, which had not until recently been monitored or properly tracked. As we know, nobody can be certain of either when or from where the next international financial crisis will appear, or under what macroeconomic conditions it will surprise us, but we must all start preparing ourselves now in order to avoid or face it. One way of doing this is to continue open and detailed discussions on the topics I have mentioned together with others focused on crisis prevention, while remembering the instruments and strategies the authorities of our countries have employed to overcome imbalances in the past.

If we focus on monetary stability, I have no doubt that we can continue benefitting from sharing (and deepening) our knowledge on monetary policy transmission mechanisms in the different countries, the influence of exchange rate movements on price level, or the way intervention interest rate variations affect spending and inflation. The answer to these concerns is to be found at the basis of a topic beginning to acquire greater importance for our work, the frequency and intensity of use of different measures of changes in the central bank interest rate as a tool for influencing credit and aggregate demand. The monetary authorities move within a range of marked preference for the use of interest rates or the application of macroprudential measures. The point where we find ourselves in this range depends on both prevailing inflation control methods, as well as the different stages of development and depth of the respective financial markets, and I believe that we will all have something to contribute and learn if we also introduce these topics to our discussions.

In this struggle for price stability, knowledge of key markets is also fundamental for monetary policy operation. If, for instance, we consider the case of exchange markets, the structure of which has deeply disrupted a large number of economies during recent years. Can we say today that we know well the organization of these markets in the countries we interact with? Do we know which agents participate in them, who transact directly with the central bank and under what conditions? What specific methods should we adopt for transactions with the government? What sizes and what dynamics are registered in the derivatives market?

From Regional to Multipolar

In order to fulfill the task of improving channels for communicating the technical experiences relevant for maintaining macroeconomic stability, a condition necessary for reaching strong, sustainable and balanced growth, it is fortunate that in recent years members of this forum have broadened our contacts in the technical field into a wide range of areas of central bank activities, in events that do not only call on the aforementioned institutions, but also a group progressively more inclusive of relevant organizations. This network of associate and observer organizations allows approaches of the highest technical level in specialized topics.

One of the greatest achievements of recent years, for instance, is the establishment of closer relationships with organizations outside the region, among which I would like to emphasize the SEACEN. In a globalized and multipolar world, problems are not limited to a determined region or are not exclusive to a certain size of economy. Furthermore, geographically distant experiences have greater potential for application than assumed in the past, even for economies in different stages of development, with diverse scales of market size and different degrees of international integration. The BIS, which has an office located in Mexico, is also a valuable member for increasing the diversity of experiences and quality of works debated in the different forums CEMLA organizes.

Of course, the fundamental bases for policies which foster economic stability are the studies made by our technical teams. Thus, improvement in the quality of economic research is one of the main concerns of central bank leaders. Peer review is one of the most important factors for this objective. Mutual collaboration on reviewing, evaluating and commenting on original research papers provides us all with the opportunity to improve the knowledge of our professionals and progress in the fulfillment of one of the tasks set forth by our predecessors: to give importance to the studies and ideas originating from the region.

CEMLA can probably participate actively in this exchange of information by, for example, maintaining international databases of experts in specific central bank topics and even acting as a type of *clearing house* for peer review. Regarding the latter, the Economic Studies departments of the different central banks would have to send their work to CEMLA so it could coordinate independent and anonymous comments on selected documents in an environment of due confidentiality and oversight.

CEMLA can also act as an efficient intermediary for collecting, not necessarily published, technical papers elaborated by affiliate institutions for solving practical matters which could be of interest to other members. I am referring to topics such as innovations in statistical measures, the formulation of the indicators I have already mentioned, or the application of oversight and control mechanisms. CEMLA's contact with affiliated centers of study or with international organizations such as those I have mentioned can improve and enrich these information exchanges and, thereby, generate the knowledge necessary for performing our tasks.

Conclusions

I am sure that during our time at work other aspects will come to light where there are possibilities for mutual benefit from the joint action of the institutions represented here. The objective is to make this a forum which contributes to the monetary and financial stability of our countries and, thereby, the well-being of people, avoiding that the meetings become routine and aiming for the highest technical level. It pleases me to think that our presence here demonstrates how the most important ingredient for allowing these initiatives to have a positive impact is the belief that together we can do more and improve our work is more alive than ever after 60 years of valuable experiences.

Panel 1
International Monetary Stability and Central Bank Cooperation

Paulo Vieira da Cunha

Presentation

It goes without saying, that the policy stances of the major central banks influence global markets and monetary policy in the rest of the world. But the extent of these spillover effects increased dramatically in the postcrisis period. Stabilization after the crisis began with the extraordinary measures to support US financial markets and the Federal Reserve's expansion and extension of its bilateral swap program.[1] This program came to include not only the G4 and Canada but a host of European countries in addition to Australia and New Zealand and the main emerging markets (EM) financial centers in Brazil, Korea, Mexico, and Singapore. Joint G4 central bank actions up to quantitative easing 1 (QE1) in March, 2008, were generally seen as globally benign and constructive.[2] However, with QE1, which lasted until March 2010, and

[1] For details of the many programs implemented by the Federal Reserve, see Federal Reserve Bank of St. Louis, *The Financial Crisis –A Timeline of Events and Policy Actions* <http://timeline.stlouisfed.org/index.cfm?p=home>.

[2] For an early, positive, assessment of the Federal Reserve's bilateral swap programs see James McAndrews, "Segmentation in the U.S. Dollar Money Markets during the

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especially during QE2, from its announcement on August 27, 2010, in Jackson Hole, the spillover effects were seen as mainly negative for EM.

Though there is some lingering controversy, research by the Bank of England and the Federal Reserve have shown, I believe quite persuasively, that QE had significant beneficial effects in the respective domestic economies.[3] QE caused rallies in asset prices and induced greater financial risk taking leading ultimately to expansions in output and employment. To this extent, it contributed to global growth. We know, from a series of spillover analyses by the IMF that shocks to the US economy and to US financial markets in particular are the single most important potential spillover to the global economy (barring an eventual collapse of the euro which is today a low probability event).[4] Thus, actions by the Federal Reserve and to some extent the Bank

Financial Crisis," Federal Reserve Bank of New York, May 2009 <http://www.frbatlanta.org/filelegacydocs/seminars/seminar_mcandrews_052009.pdf>.

[3] See for example, George Kapetanios, Haroon Mumtaz, Ibrahim Stevens, and Konstantinos Theodoridis, *Assessing the Economy-wide Effects of Quantitative Easing*, Working Paper, No. 443, January 2012, Bank of England <http://www.bankofengland.co.uk/publications/Documents/workingpapers/wp443.pdf>, and Jonathan Bridges and Ryland Thomas, *The Impact of QE on the UK Economy –Some Supportive Monetarist Arithmetic*, Working Paper, No. 442, Bank of England, January 2012 <http://www.bankofengland.co.uk/publications/Documents/Forms/DispForm.aspx?ID=5416>. For the USA, Michael Bauer and Glenn Rudebusch, *The Signaling Channel for Federal Reserve Bond Purchases*, Working Paper, No. 2011-21, Federal Reserve Bank of San Francisco, September 2011 http://www.frbsf.org/publications/economics/papers/2011/wp11-21bk.pdf>, and Hess Chung, Jean-Philippe Laforte, David Reifscneider, and John Williams, "Estimating the Macroeconomic Effects of the Federal Reserve's Asset Purchases," *Economic Letter,* No. 2011-03, Federal Reserve Bank of San Francisco, January 2011 <http://www.frbsf.org/publications/economics/letter/2011/el2011-03.pdf>. See also, Vasco Cúrdia and Michael Woodford, *The Central-bank Balance Sheet as an Instrument of Monetary Policy*, NBER Working Paper, No. 16208, July 2010 <http://www.nber.org/papers/w16208>.

[4] IMF, *United States - Spillover Report - 2011 Article IV Consultation*, IMF Country Report, No. 11/203, July 2011 <http://www.imf.org/external/pubs/ft/scr/2011/cr11203.pdf>. IMF, *Euro Area Policies: Spillover Report for the 2011 Article IV Consultation and Selected Issues*, IMF Country Report, No. 11/185, July 2011 <http://www.imf.org/external/pubs/ft/scr/2011/cr11185.pdf>.

of England and later the European Central Bank (ECB) had important positive spillover effects on global trade.

However, the global liquidity and risk-reducing impacts of *non-conventional* monetary policy had also other effects. Commodity prices shot up, notably post QE2 in 2010. Commodity indices gained about 50% between June 2010 and April 2011, surpassing the levels of the previous peak in 2007.[5] Across emerging economies (EM), in countries ranging from China and Chile to South Africa and Turkey, actual and expected inflation increased rapidly, in some cases leading to premature reversals in the monetary stance. Moreover, the US dollar depreciated rapidly with a surge in capital flows and speculative currency movements favoring the main EM currencies. Not only in Brazil, Chile and Colombia but in India, Indonesia and across non-Japan Asia there were large real appreciations made worse by the slow moving adjustment in China's currency. The response was a drive to currency intervention, reintroduction of capital controls and, in the extreme, in Brazil, Indonesia and Turkey changes in the basic macroeconomic frameworks to far more uncertain and questionable practices away from the

[5] Bloomberg CMCI Composite USD Price Index: The spot price changed by 53.2% between June 7, 2010, and April 8, 2011; the 30 day moving average changed by 44% between June 25, 2010, and May 4, 2011.

While markets traded on the expected correlation between QE, expanded liquidity and commodity prices, and while ex post there is a clear correlation between these variables, there is, however, no simple causality between the trend in commodity prices and monetary policy in the G3. Other factors may well have been at work. For arguments in this direction, see for example, Ben S. Bernanke, "Remarks at the International Monetary Conference," Atlanta, June 7, 2011 <http://www.federalreserve.gov/newsevents/speech/bernanke20110607a.htm>. There is also an issue of impact versus longer-term effects. See, Ruven Glick and Sylvain Leduc, *Central Bank Announcements of Asset Purchases and the Impact on Global Financial and Commodity Markets*, Working Paper, No. 2011-30, Federal Reserve Bank of San Francisco, December 2011. "In our analysis, we also show that commodity prices tended to fall, on average, on announcement days, particularly during LSAP1 [QE1]. Our results suggest that market participants viewed LSAP announcements by the Federal Reserve as signaling lower future economic growth in the United States, which jointly lowered long-term interest rates, the value of the dollar, and commodity price on the days that policy news was released" <http://www.frbsf.org/publications/economics/papers/2011/wp11-30bk.pdf>.

tripod of flexible exchange rates, inflation targeting (IT) and relatively solid fiscal anchors.[6] I am not suggesting that external events drove these policy changes. In the three cases, they were driven by domestic events, primarily. But the external backdrop and especially the policies of the G4 central banks played a role.

In the event, the implosion of the full-blown euro crisis in the summer of 2011 reversed the course of the global economy and changed the impetus of international transmission from growth to recession and from inflation to deflation. But by then the damage was done and central banks across most of EM had changed. To be sure, Chile, Colombia, the Czech Republic, Israel, Korea, Mexico and, arguably, Poland, safeguarded their IT regimes. Chile and Korea even managed to adjust back their fiscal stances to the ex ante crisis surplus position. On the other hand, as is well known, the Swiss National Bank fixed the exchange rate, taxed deposits by foreigners and acted otherwise to try to protect the Swiss economy from the flood of nervous European monies seeking safe-haven.

The issue of how to treat the exchange rate in IT regimes (whether as endogenous or as an explicit quasi-instrument) has always been a vexing question in the IT debate.[7] The wholesale transition to regimes with intervention and/or regimes that de facto let go of the inflation target will be, possibly, a subtext of our discussions. But to be more specific let me finish by paraphrasing a consensus view in financial markets. The *representative* strategist would say some like this: "During previous instances of QE, an appreciation in EM currencies has followed due to the

[6] Reversing its long-standing objection to capital controls, the IMF condoned these practices in the special circumstances postcrisis and post-QE. See, Gilbert Terrier et al., *Policy Instruments to Lean against the Wind in Latin America*, IMF Working Paper, No. WP/11/159, July 2011 <http://www.imf.org/external/pubs/ft/wp/2011/wp11159.pdf>.

[7] See, for example, Lars Svensson, *Inflation Targeting after the Financial Crisis*, Sveriges Riksbank, February 2010 <http://people.su.se/~leosven/papers/100212e.pdf>, and Kenneth Kuttner and Adam S. Posen, *How Flexible Can Inflation Targeting Be and Still Work?,* Discussion Paper, No. 34, Bank of England, October 2011 <http://www.bankofengland.co.uk/publications/Documents/externalmpcpapers/extmpcpaper0034.pdf>.

excess of liquidity. If QE3 in the USA were to materialize, the room to cut rates in Mexico would increase, especially if domestic growth slows down with the loss in competitiveness." So quite clearly interconnectedness in monetary policy is everybody's mind. I think that most of the market views this as the outcome of dominant central banks doing what they have or think best to do to attend to their domestic mandates. It is not exactly cooperation but the implications are powerful. To discuss these issues and others, CEMLA has brought together an outstanding panel.

Josh Felman

Central Bank Cooperation and the International Monetary System: European Lessons

We are here to celebrate an important anniversary –the 60th anniversary of CEMLA. This occasion is important for two reasons. First, because 60 years is a long time. It is certainly worth celebrating any institution that has managed to last so long. Second, because CEMLA is dedicated to an objective –central bank cooperation– that is tremendously important to the international monetary system. Central bank cooperation has been critical to resolving problems in years past. And it will become even more important in the years ahead, if we are to overcome the problems of the 21st century.

The fact that CEMLA has now been around for more than half a century reminds us that central bank cooperation is not a new idea. Actually, the origins of central bank cooperation are almost as old as central

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banks themselves. So, if we want to think about how central bank cooperation can and should work in the 21st century, the first thing we should do is examine that rich legacy, to see how cooperation has actually operated in the past. Since central banking originated in Europe, and since Europe to this day remains at the forefront of experiments in international cooperation, it is particularly useful to examine the experience of that continent. We should all take European lessons, to see what we can learn.

One of the first notable examples of European central bank cooperation came in the 1820s. Perhaps unsurprisingly, it arose in response to developments in Latin America. After the end of the Napoleonic wars, the global economy started to boom, creating a tremendous demand for minerals and agricultural products from the New World. Exports from Latin America started to rise rapidly, encouraging firms to invest in the region's infrastructure, especially its gas lighting, railroads, and canals. These investments were financed in large part by selling shares in London. As British investors became convinced that buying these shares was the pathway to riches, share prices on the London exchange soared, *quadrupling* in the two years leading up to 1825.

But some of these infrastructure projects did not pan out. Others proved fraudulent. At that point, the bubble burst and banks started to fail. As investors panicked, gold bullion began to flow out of the Bank of England. In no time at all, the Bank's gold holdings plummeted, falling from 14 million pounds to just two million pounds. At that point it seemed as if the Bank might need to suspend convertibility. But then the Bank of France stepped in. It lent the Bank of England gold reserves, and thereby quelled the panic.

Even today, from a distance of two centuries, this example of international cooperation still seems astonishing. It is amazing that just a few years after being humiliated by the British in the Napoleonic wars, France would actually be willing to bail out its former enemy. And it seems equally incredible that proud Britain agreed to be bailed out by France. But it happened, because both sides realized the importance of containing international banking panics and sustaining the international monetary system.

Fast forward now to the 21st century, and consider our period's most striking case of international monetary cooperation –the European Monetary Union (EMU). EMU was founded on the notion that it was possible to create a common currency and an integrated regional financial market, even as each country retained sovereignty, including responsibility for its own fiscal and financial stability. This unique structure was put to the test after the Global Financial Crisis –and it was found wanting. It proved impossible for the euro area to ignore the stability problems of individual countries, because financial integration meant that problems in one country were quickly transmitted to all the others. So, Europe quickly faced a choice: it could give up on the goal of financial integration or it could deepen its cooperation.

It chose greater cooperation. That is, it chose to build additional euro-wide institutions to support the euro-wide financial system. Most notably, it agreed to transfer responsibility for financial stability to the European level, adopting a single supervisory and regulatory mechanism. But designing a new international institution in the middle of a crisis has proved extremely difficult, because the task raises a host of difficult questions which inevitably take time to resolve. In the meantime, the European financial system is fragmenting. Bank lending rates in the individual countries started to diverge significantly in 2011, and despite considerable efforts to re-establish financial unity, the divergences remain large today.

As with Europe, so with the international economy. Just as in Europe, there was a tremendous increase in international financial integration during the 2000s, even as individual countries retained the responsibility for preserving financial stability. Financial integration had been growing for quite some time before that of course, but at a stately pace. In the major advanced countries, international assets and liabilities remained a steady share of GDP in the 1970s, before rising somewhat in the 1980s and early 1990s as capital controls were dismantled. Then, in the decade leading up to the Global Financial Crisis, they suddenly took off, doubling as a share of gross domestic product (GDP) in most countries, reaching more than nine times output in the United Kingdom and Switzerland.

What was driving this sudden increase? In large part, the same types of investor misperceptions that occurred back in the 1820s. Banks around the world saw the opportunity to earn high returns in peripheral Europe, with no risk of devaluations, since these countries were now part of the euro area. Similarly, banks saw an opportunity to obtain assets such as US subprime CDOs (collateralized debt obligations) that they thought were as safe and liquid as ordinary AAA assets, but which paid much more than the usual US treasuries. So, they borrowed short-term in dollars to accumulate these assets. When this judgment proved wrong –when these assets proved to be *fool's gold*– the short-term dollar funding was withdrawn, creating a dollar shortage that was felt around the world. And as this occurred, the global economy ground to a halt.

Just as Europe discovered with its EMU experiment, countries around the world discovered that financial integration has bound their economic fates inextricably together. How did they react? To a large extend, much the same way they always have –by cooperating. Central banks quickly erected a spider's web of swap lines that diffused dollar liquidity around the world, thereby restoring stability to the global economy. Once again, central bank cooperation proved critical in addressing a crisis.

But the solution was ad hoc. The criteria for determining which central banks were eligible for the swap lines were far from clear. And the lines were explicitly temporary. As a result, it was not clear to any country that the swap lines would be there in the future, if they needed them.

Central banks opted, therefore, to build up their own dollar reserves. This development has been particularly pronounced among the emerging markets (EMs). Now, there are many reasons why emerging markets have accumulated reserves. To a certain extent, the accumulations have been inadvertent, the result of persistent buying of foreign exchange in the face of sustained capital inflows. But the desire for self-insurance seems to have played a large role, judging from the statements made by central banks themselves –and from the timing of the reserve accumulations. In the mid-1990s, the reserves of emerging markets accounted for only about 10% of their GDP. But after the Mexican and Asian crises, EMs rapidly increased their holdings, which reached around 25% of GDP by 2007. Then, in just the few years following the Global Financial Crisis, they raised their reserves to nearly 35% of gross domestic product.

Such a solution is far from optimal, however, because it requires countries to forego consumption. This is clearly evident in countries that accumulate reserves by running current account surpluses, since it means that they are consuming less than they produce. But it is true even for countries that accumulate reserves by buying up capital inflows. That is because such transactions are costly. On the surface, they might seem to be mere asset swaps: foreigners buy up assets in the EMs, while EM central banks buy reserve assets in advanced economies. But the returns EMs obtain on reserves are much lower than the returns they have to pay on their liabilities, because reserve assets provide a non-pecuniary benefit, the ability to be converted into a reserve currency quickly and easily, with a minimal loss in price.

In other words, the insurance aspect of reserves comes at a cost for individual countries. There is also a cost for the international monetary system. When central banks accumulate large amounts of reserves, they affect asset prices and exchange rates, often inadvertently distorting market prices.

The problem gets worse. There is a paradox at the heart of the current system, similar to the Triffin dilemma of the post-World War II Bretton Woods system. The Triffin dilemma was that the USA had to meet other countries' growing demand for reserves by running current account deficits. But the persistent deficits and growing amounts of dollar liabilities eventually undermined confidence in the dollar's exchange rate. The paradox of the current system is similar. Emerging markets are growing rapidly, which means their demand for reserve assets issued by advanced countries is growing rapidly. To satisfy this demand, advanced countries need to issue growing amounts of securities, a process that could eventually push up their debt stocks beyond prudent levels. In other words, the voracious demand for safe assets is paradoxically making those assets risky.

There is an obvious solution to this problem –the same solution that was adopted in Europe. Some of the responsibility for financial stability could be transferred to international institutions. Instead of countries insuring themselves, insurance could be provided by an international pool of reserves, which could be used to provide institutionalized credit lines. Because this pool would benefit from risk diversification –not all countries would be drawing at the same time– it could be smaller and hence less costly than the sum of the national reserves it would replace. These credit lines could be established at the organization that was built for this purpose: the International Monetary Fund (IMF).

In fact, the IMF has already taken some major steps toward such an arrangement. Since the Global Financial Crisis, the IMF has expanded its resources available for lending and has made its instruments much more flexible. In particular:

- The Flexible Credit Line (FCL) allows countries with very strong economic fundamentals and policy track records with potential or actual balance of payments pressures to obtain large and up-front access to IMF resources with no ongoing conditions.
- The Precautionary and Liquidity Line (PLL) provides financing to meet actual or potential balance of payments needs of countries with sound policies, with focused ex post conditionality aimed at addressing the remaining vulnerabilities identified during qualification.

Yet even these instruments still are not quite as attractive to member nations as their own reserves. We remain far away from the benefits of an internationalized reserve pool. And Europe's experience shows that setting up a true international lender of last resort raises a host of difficult questions:

- How could moral hazard be contained?
- If this would be done through conditionality, who would impose this conditionality?
- Could sovereign debt problems be resolved in an orderly way?
- How could cross-border banks be resolved?
- Perhaps most vexing of all, who would provide the fiscal backing, to absorb the costs of resolving sovereign and bank problems?

Conclusion: European Lessons

As in Europe, so in the global economy. Financial integration has occurred so suddenly and sharply that we are only just now beginning to come to grips with its implications. But it is already apparent that allowing international financial integration to proceed while keeping responsibility for preserving financial stability in individual countries is a recipe for problems. We have already seen the consequences in Europe.

So, we need a different strategy. We need to respond to the increase in global financial integration by building global institutions, aimed at reducing the risks to financial stability and the consequences of instability. And we need to start doing this now –before another crisis hits. Because, as Europe's experience shows, it is extremely difficult to do so afterwards.

What, precisely, needs to be done? Certainly, central banks will need to intensify their cooperation, by formalizing swap arrangements. They will also need to move beyond cooperation to some form of integration. For example, much greater amounts of reserves might be pooled at the IMF and its credit lines developed further. Supervisory regimes could be harmonized, cross-border resolution frameworks agreed. Doing so will not be easy. But that does not make it any less necessary. If the world is to address the problems of the 21st century, it needs to heed the lessons from the past. It needs to take European lessons.

Philip Turner

Caveat Creditor

This presentation addresses one area where international monetary cooperation has failed –the role of surplus or creditor countries in limiting external imbalances. This applies not only to postcrisis situations (when restrictive policies in deficit or indebted countries require some offset from strong external demand), but also to the precrisis lending policies of creditors. Hence my title: Caveat Creditor.

Current account imbalances have grown, and the accumulated stocks of international assets and liabilities have become huge. Many have argued that there is a strong link between imbalances and financial stability.[1] One quotation suffices:

[1] See notably the papers prepared for the Palais Royal Initiative in Boorman and Icard (2011).

Bank for International Settlements <philip.turner@bis.org>. Views are from the author, not necessarily those of the BIS. *I am very grateful to Stephen Cecchetti, Dietrich Domanski, Enisse Kharroubi, Richhild Moessner, Madhu Mohanty, Carlos Montoro, and Elod Takats for helpful comments. Clare Batts, Gabriele Gasperini, Branimir Gruic, Emese Kuruc, Denis Pêtre, and Jhuvesh Sobrun provided valuable help in preparing the paper.*

> The financial markets have now given two very strong signals of the existence of an underlying disequilibrium in the world economy. […] The central problem is the existence of massive international imbalances. The United Sates, primarily because of the sharp increase in the federal budget deficit, has been spending considerably more than it can produce […] but the surplus countries [Japan, Germany and the newly industrialized countries of Asia] […] have relied excessively on export-led growth. If these imbalances are not now [addressed], a third crash of the markets could be greater than either predecessor.

These words could have been penned yesterday. The two shocks might be the Lehman failure at end-2008 and the euro area crisis from mid-2010. But they were written by a distinguished international group of economists in December 1987. The two shocks were the 30% decline in US bond prices early in the year and the equity market plunge of 1987.[2]

At a conference convened by the Banque de France in 2010, several leading central bank governors voiced very similar worries. They underlined the strong links between global imbalances and financial stability (Banque de France, 2011). Several echoed the warning of Carstens that "[without] agreed upon solutions to the underlying disequilibria, we could be sowing the seeds for a new, potentially more devastating crisis."

Global Imbalances: Real Economy versus Finance

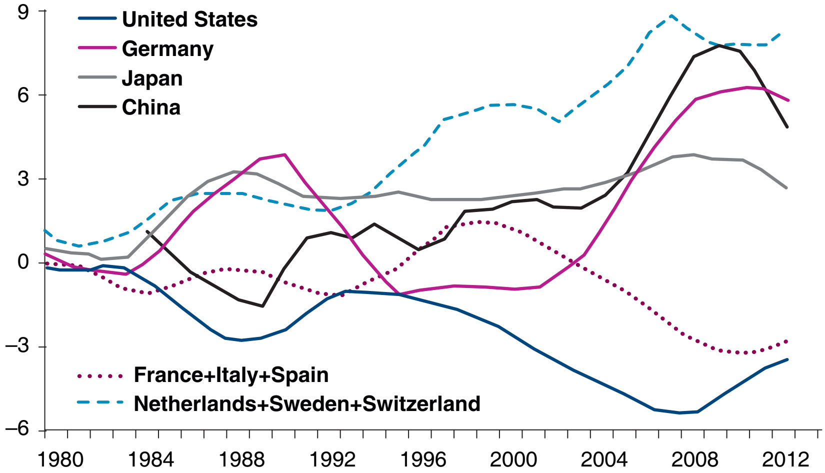
Global imbalances widened considerably in the decade that preceded the recent crisis. Figure 1 shows 5-year moving averages of the current account positions of six countries or group of countries. The greater divergence since the mid-1990s is unmistakable, and much larger than the late-1980s imbalances which caused so much worry at that time.

[2] Institute for International Economics, "Resolving the Global Economic Crisis", a statement by 28 economists from 14 countries, December 1987.

Figure 1

CURRENT ACCOUNT IMBALANCES

(5-year moving average, as a percentage of GDP)



Sources: OECD, *Economic Outlook;* IMF, *World Economic Outlook;* BIS calculations.

The cross-country pattern of imbalances today is not so different from the pattern in the 1980s.

On macroeconomic grounds, the persistence of imbalances is surprising. Simple macroeconomic models suggest that imbalances should be self-stabilizing and contain the seeds of their own correction. Monetarist models assume that current account surpluses expand the money supply and thus stimulate demand: this was clearly true under the gold standard. Keynesian models (with fixed exchange rates) view a current account surplus as an injection of aggregate demand, which ultimately stimulates imports and so leads toward a correction.

In both models, real exchange rate appreciation in surplus countries (depreciation in deficit countries) should contribute to international rebalancing. Moreover, flexibility in the nominal exchange rate can reinforce or accelerate these re-equilibrating mechanisms. Many economists, drawing on one or other of these models (often counting in addition on flexible exchange rates), have therefore dismissed worries about imbalances.

Yet the reality is very different from these simple theories. Why? The answer is finance: the nature of the external financing of imbalances creates its own dynamics. Imbalances are often corrected not because macroeconomic adjustments run their course, but because of a sudden stop in financing.[3] At some point, creditors become worried that they may not be paid back. So they begin to refuse to finance debtors, and often do so in unison (*herding*). How easily the often-indiscriminate optimism in global financial markets which stimulates cross-border investment can turn to near-universal pessimism! As lenders face the prospect of capital losses, there is a *flight to quality*. Equally important is the *flight home* effect: home bias in financial portfolio allocation tends to reappear, sometimes abruptly, during periods of financial stress.[4]

In recent decades, the scale of external financing has become enormous. Countries incur external liabilities not only to finance current account deficits but also to acquire external assets. This phenomenon of increased *two-way* capital movements, which developed between the advanced economies in the 1980s, has become increasingly evident in the emerging economies. More open capital accounts, domestic financial liberalization and the development of new financial instruments made the financial diversification and intermediation functions of international capital markets –and not the classical allocation of capital function– preeminent.[5] For example, investors in a low-inflation country could enjoy

[3] Many cross-country studies have shown that higher current account deficits increase the risk of financial crisis. See Bush et al. (2011).

[4] Giannetti and Laevan (2011).

[5] The *need* for financial diversification itself arose from the nature of the international monetary system. Floating exchange rates, sizeable differences in interest rates in different countries and volatile markets created risks that had to be hedged. Under the classical 19th century financial system, such risks were hardly present: exchange rates were fixed, interest rates much less dispersed and variable over time and underlying inflation nonexistent. Gross capital flows were therefore much smaller even though net

the short-term gains of high nominal interest rates in inflation-prone countries whilst investors in inflation-prone countries would invest in the low-inflation country to hedge their inflation risks. Each could thus diversify his portfolio even in the absence of any net flow of capital from one country to the other (the classical function). As will be discussed in Section 4, this *two-way* nature of external finance has made more complex, and in some ways more intractable, the vulnerabilities created.

Agents in countries with large current account deficits are often surprised by the sheer suddenness of reversals in external financing. Lenders expect repayment of their earlier loans, but extend no new finance (or do so only for very short terms or at high rates of interest). Without new finance, deficit countries have to sell assets to foreigners or they have to generate current account surpluses to meet repayments of foreign loans falling due.

The ability or willingness of surplus countries to sustain their domestic demand –and accept a swing toward current account deficit– will determine the consequences for global growth. In most major international adjustments, few deficit countries have escaped recession. In many cases, the financial system in deficit countries is disrupted and destabilized, with long-lasting consequences for the real economy (Cerra and Saxena, 2008). Latin America's experience in the 1980s is familiar to the participants at this conference. In the 1990s, dynamic Asian economies learned all about it. And now the advanced European countries that had relied on foreign funding to grow rapidly confront sharp reversals in external financing.

For these reasons, it is essential to better understand external imbalances and the financial vulnerabilities they can create. This is hard because debtor-creditor relationships become much more complex in the case of cross-border contracts written in many different jurisdictions (Tirole, 2002).[6]

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capital flows were very substantial. See Turner (1991), pp. 27-30, and Obstfeld and Taylor (1997).

[6] Tirole (2002) argued that, in the case of foreign debts incurred by private firms, the debtor's government can in a crisis decide whether the debts incurred in its jurisdiction

In a financial crisis, exchange rate movements –which are often essential for macroeconomic stabilization– can become destabilizing because debtors find it much harder to service their foreign currency debts. Default of the sovereign, of large banks or of major corporations reduces the value of assets held by viable entities, tightens borrowing constraints and disrupts economic activity (Mendoza, 2010). In short, the introduction of finance can destroy the self-equilibrating properties of simple macroeconomic models.

Three Current Account Imbalances

Three imbalances are of most interest at present. The first is the oil-producers' surplus. The second is the imbalance across the Pacific. And the third is the imbalances within Europe.

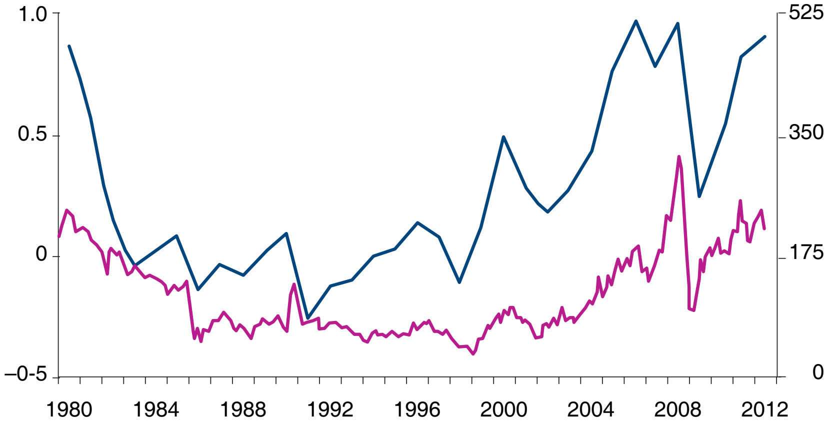
Figure 2 shows the substantial rise in the current account surplus of oil-producing countries. The surplus is currently 650 billion of dollars –almost 1% of world GDP. If the present level of oil prices represents a temporary high, it makes sense for exporters to have a surplus and accumulate foreign assets. When oil prices fall, this position should reverse. A current account surplus that helps such smoothing over time is desirable. A balanced current account cannot be an objective in itself. Nevertheless, a current account position that is desirable for one group of countries will have implications for the others. In this case, oil importers in aggregate must have a current account deficit.

The imbalances across the Pacific –China and Japan (the surplus countries) and of the United States– widened in a major way before the crisis. Since then, however, they have narrowed. One major factor has been strong domestic demand in China and recession in the United States. A second factor was the real effective appreciation of the Chinese currency and depreciation of the dollar. But part of this may also reflect reduced US dependence on imported energy.

are repaid or not. There is no *delegated monitor* to protect lenders in such cross-border contracts (a role Tirole suggests for the IMF).

Figure 2

FUEL EXPORTERS: OIL PRICE AND CURRENT ACCOUNT BALANCE



Current account balance of fuel exporters/World GDP
(left, in percentages)

Real crude oil (WTI) price index
(right, US CPI-adjusted)[1]

Sources: Bloomberg; IMF, *International Financial Statistics;* IMF, *World Economic Outlook;* BIS calculations.
[1] 1980-1999 =100.

In contrast, the European imbalances have been more persistent. In many ways, Germany has been at the centre of this. During much of the first decade of this century, declining real wages held back private consumption in Germany and led to a sizeable real effective depreciation in its exchange rate. Combined with strong export growth (helped by the infrastructure and investment boom in the Middle East and Asia), this led to a current account surplus that exceeded 7% of GDP in 2007.[7]

[7] According to Sinn et al. (2011), Germany exported two-thirds of its aggregate savings between 2002 and 2010. Only one-third was invested at home in equipment, construction and so on.

Table 1

CURRENT ACCOUNT BALANCE

(percentage of GDP)

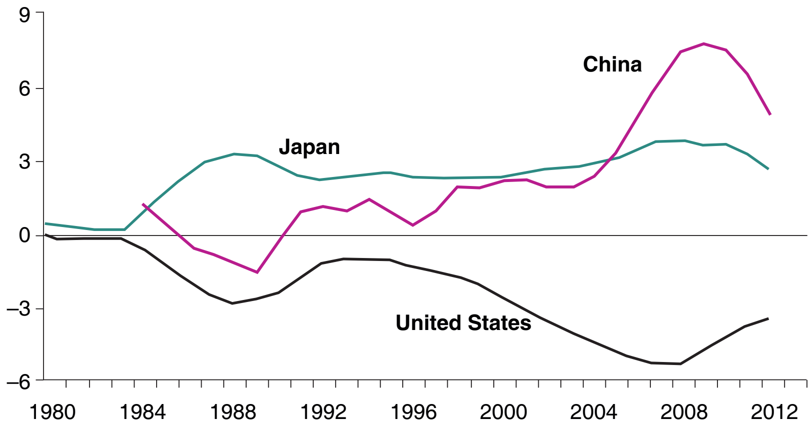
	1980-2000	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*
United States	–1.9	–5.9	–6.0	–5.1	–4.7	–2.7	–3.2	–3.1
Germany	0.1	5.1	6.3	7.4	6.2	5.9	6.1	5.7
Japan	2.4	3.6	3.9	4.8	3.2	2.8	3.6	2.1
China	1.1	5.9	8.6	10.1	9.1	5.2	5.2	2.8
France+Italy+Spain	–0.0	–2.1	–2.8	–3.2	–4.0	–2.6	–3.0	–2.9
Netherlands+Sweden+Switzerland	3.8	9.0	10.6	8.0	4.9	6.9	9.2	9.4

Sources: IMF, *World Economic Outlook*; BIS calculations.

Figure 3

CHINA, JAPAN AND THE UNITED STATES: CURRENT ACCOUNT IMBALANCES

(5-year moving average, as a percentage of GDP)



Sources: OECD, *Economic Outlook;* IMF, *World Economic Outlook;* BIS calculations.

But Germany is not alone. The average surplus of the Netherlands (a euro area country), Sweden and Switzerland exceeded 9% of GDP last year (Table 1). The aggregate deficit of France, Italy and Spain is sizeable –just under 3% of GDP in 2011.

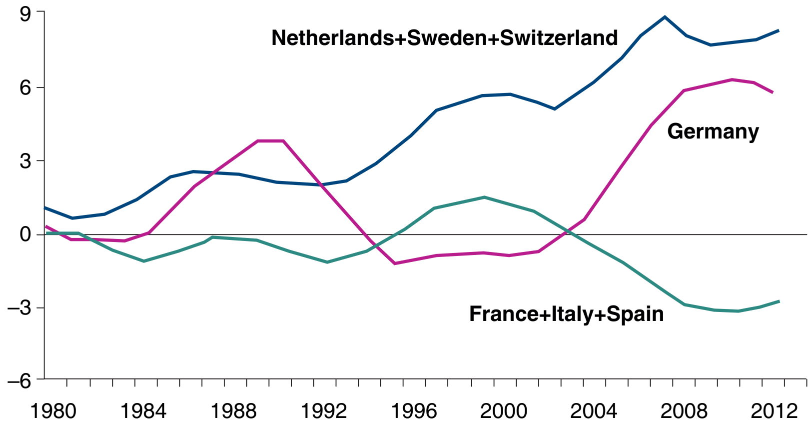
The creation of a common currency removed the nominal exchange rate as an adjustment mechanism.[8] Greater respect for the Maastricht convergence criteria might have reduced these imbalances but would not have prevented them. Some economists argued in the late 1990s that the adoption of the euro would itself trigger mechanisms that would automatically favor economic convergence. An optimal currency area was, on this view, endogenous. As Eijffinger and Hoogduin (2012) have

[8] Non-euro currencies also did not adjust. The Swiss franc remained close to the euro for much of this period. The real value of Swedish krona did not rise in line with larger current account surpluses.

Figure 4

EUROPE: CURRENT ACCOUNT IMBALANCES

(5-year moving average, as a percentage of GDP)



Sources: OECD, *Economic Outlook;* IMF, *World Economic Outlook;* BIS calculations.

laconically observed, "the endogenous optimal currency area theory has been convincingly falsified".[9]

All these developments, which have different specific roots, suggest that current account imbalances were a general problem (perhaps a symptom of different underlying causes) before the crisis and remain an issue today.

Role of Surplus Countries

The main adjustment effort to correct imbalances usually falls on deficit countries because external financing constraints force them to act.[10]

[9] See also Giavazzi and Spaventa (2010). They explain that models which sought to establish the optimality of current account deficits (as euro area countries with lower initial per capita income caught up with richer countries) depend on the *assumption* that the foreign liabilities incurred are paid back by future current account surpluses. They thus ignore the financing constraints discussed in Section 2.

[10] The United States is an exception given the status of the dollar as the international

The threat to current account surplus countries comes from the risk that debtors will default; but this typically happens only later in the process, if at all. Yet countries with persistent current account surpluses (not matched by sustained or long-term capital outflows) also have a role to play. Whether adjustment should rely on macroeconomic policies in surplus countries or on policies in deficit countries depends on at least two elements.

The first element is the global output gap. If there is excessive aggregate demand at the global level, and inflation is rising, adjustment should rely largely on deficit countries curbing demand. Conversely, a situation of global deflation would call for expansion by surplus countries because deficit countries often face financing constraints. Deflation in deficit countries is better avoided not only because of the waste of resources, but also because it would make it harder for borrowers in deficit countries to repay their foreign debts. Widespread defaults would hurt lenders in surplus countries.

A consideration of the incentives affecting exchange rate policy reinforces this logic. Global deflation gives countries an incentive to undervalue their currencies in order to increase demand for their tradables. And, in a deflationary world, they are much less concerned about the price rises that would follow currency depreciation.

The second element is the initial stance of macroeconomic policies. Additional macroeconomic stimulus is less justified when fiscal and monetary policies are already very expansionary or when the prolonged use of such policies has undesired side-effects.

The problems of course come from difficulties in measuring the global output gap and in judging how expansionary macroeconomic policies should be. The 1930s was clearly a deflationary period and macroeconomic policies much too restrictive. Prices, including commodity prices, were falling and there was massive unemployment. The present situation is rather different. Macroeconomic policies are now expansionary. A very strong rise in global commodity prices has taken

currency.

place. Yet unemployment in the advanced economies is very high. So the inflation versus deflation risk at present is more ambiguous, and the risks of expansionary policies greater, than in the 1930s (BIS, 2012). As Paolo Vieira da Cunha pointed out in this session, macroeconomic policy frameworks in the EMEs have been put under some stress by these policies. Nonetheless, the global deflation scenario mentioned by John Murray at the conclusion of this conference –with more-aggressive fiscal consolidation in most advanced economies but without structural reforms or other policies to stimulate demand in surplus countries– would be worrying.[11]

Stock of International Imbalances

The problem of international equilibrium goes deeper than current account imbalances, which is just a measure of flows. Stocks are the crucial factor. Five dimensions of the *stock* aspect of imbalances are important.

Net External Debt

Many years of current account deficits have a snowball effect as large external debts build up, generating heavier debt service payments abroad. As higher net debt undermines creditworthiness, credit spreads rise. In the limit, external finance from private sources dries up.

Leverage and Currency/Maturity Mismatches

The second set of risks comes from the expansion of both sides of the national balance sheet. Countries incur foreign liabilities not only to finance current external deficits, but also to finance investment in foreign assets. A country with a positive net external asset balance may have incurred sizable foreign debts in order to finance a large portfolio of foreign assets. Indeed, a striking characteristic of the decade preceding the crisis was an extraordinary explosion of both foreign assets and

[11] See De Resende et al. (2012) for details of this simulation.

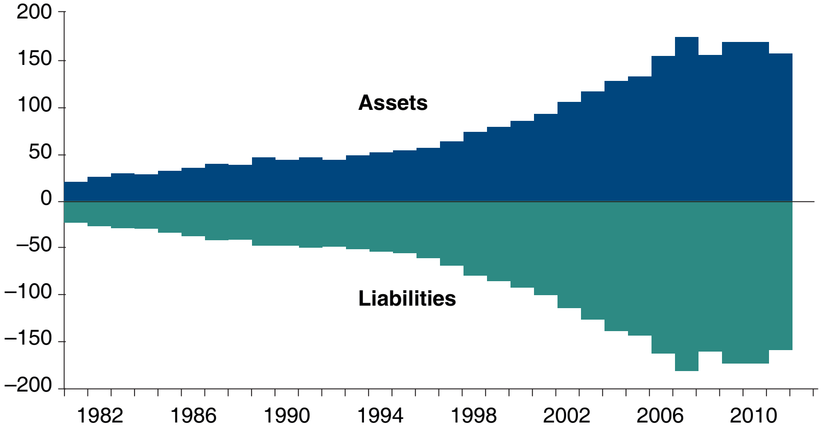
foreign liabilities. From around 50% of world GDP in the mid-1990s, aggregate foreign assets have grown to over 180% of world GDP by 2007 (Figure 5). The external balance sheets of countries became more leveraged, at least as measured by gross external assets relative to the country's net asset position. Debt-to-income ratios are another measure of leverage: Figure 6 shows that external financial liabilities have also risen much more sharply than export values (a proxy for foreign income). It is an open question whether cross-border investment on the scale reached in 2007 was sustainable: Did it just reflect reckless banks and cyclical excesses? In any event, there has been a decline over the past four years. *Flight home* effects have been strong.

Risk exposures arise because a country's foreign liabilities usually take a form that is quite different from its foreign assets. Currency

Figure 5

INTERNATIONAL INVESTMENT POSITIONS OF ALL COUNTRIES

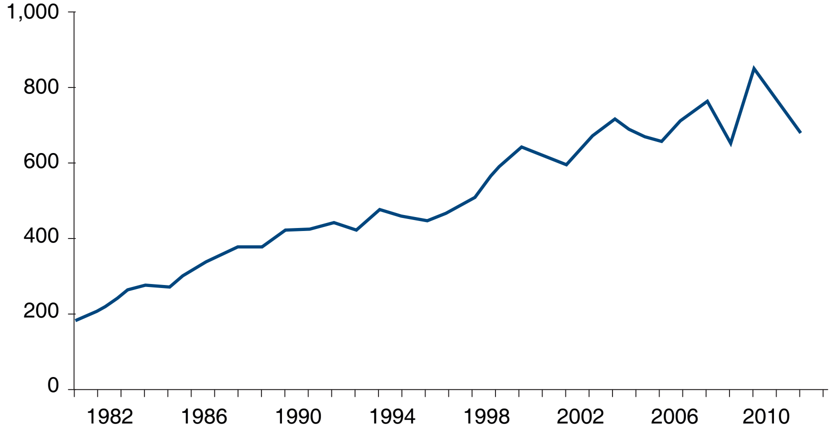
(as a percentage of world GDP)



Sources: IMF, *International Financial Statistics;* IMF, *World Economic Outlook;* BIS calculations.
[1] Sum of 114 economies.

Figure 6

INTERNATIONAL INVESTMENT LIABILITIES AS A PERCENTAGE OF TOTAL EXPORTS OF ALL COUNTRIES



Sources: IMF, *International Financial Statistics;* IMF, *World Economic Outlook;* BIS calculations.
[1] Sum of 127 economies.

and maturity mismatches can create vulnerabilities even in a country with little or no net debt. Indeed, the common element of virtually all financial crises in the emerging markets in earlier decades was some form of currency or maturity mismatch. This also applies to the recent advanced economy crisis. For instance, Europe had a balanced current account before the crisis. But Europeans borrowed on a very large scale to buy US assets. The fact that European banks financed the acquisition of (illiquid and longer-term) dollar assets by short-term dollar borrowing aggravated the recent crisis.

Ownership of Assets and Liabilities

The ownership of assets matters because the sectors with foreign debts are not usually the sectors which own the foreign assets. Hence private sector borrowers with heavy external debts are a default risk even when the sovereign (with large holdings of foreign assets but few debts) is not a default risk. Equally banks that have large foreign debts are a default risk even if institutional investors in the same country have large foreign assets.

A further complication is that, when the default risk of the sovereign rises, even viable private agents find it harder to secure external finance. This is because a sovereign can take many actions that make it harder for private companies to meet their foreign debts. It can impose capital controls, it can increase taxes on companies, it can force households or companies to finance the government and so on. This means that foreign creditors must worry not only about their (private) counterparty, but also about what a government under pressure from foreign creditors might do (Tirole's *dual agency* problem). For such reasons, solvent banks find it more difficult to refinance their external liabilities when their country's creditworthiness comes under question.

The absence of agreed international bankruptcy laws and procedures (and the related rules on collateral) means that debt default (or some other form of market suspension) will depend on local political decisions and on the views of foreign official lenders. As neither is predictable, uncertainty is increased.

Debt versus Equity

The choice between debt and equity forms of liability is also important. Debt-financed investment leaves the borrower exposed to investment risk. But equity forms of foreign assets ensure the lender bears some of the underlying investment risk and so usually offer higher returns. Different countries have made very different choices about this. The United States (and many other advanced economies) is long equity but short debt. Emerging market countries with a positive net external asset position typically hold the bulk of their assets in debt instruments rather than foreign equity. Debtor countries whose cross-border liabilities take the form of debt contracts (bank loans, bonds held by non-residents) rather than of foreign holdings of local equities are in effect more leveraged and thus more vulnerable. Those with short-term debts in foreign currency are particularly exposed.[12]

Fuel for Domestic Bank Credit

Finally, foreign borrowing by domestic banks can allow credit growth to outstrip domestic deposits. This can fuel an expansion of bank credit. Many studies –including by the BIS– have demonstrated a significant positive correlation between foreign borrowing by banks and changes in domestic credit/GDP ratios.[13]

The Role of Creditors

The recent financial crisis was brought about by major policy failures in debtor countries. Nevertheless, the actions of creditors also contributed. Several econometric models have shown than different economic policies in creditor as well as debtor countries in the years before 2007 would have limited both internal and global imbalances.[14]

Bernanke's *global saving glut* thesis is well-known, and has much empirical support (see, for example, the evidence marshalled in Box 1 of Bush et al., 2011). Less well-known is the role played by European banks. Bertaut et al. (2011) have shown just how large aggregate foreign demand for US assets was before the crisis. They estimate that from 2003 to mid-2007, OPEC, China and other Asian emerging economies bought about one trillion of dollars of Treasury and mortgage agency debt. European acquisition of US corporate debt amounted to 1.25 trillion, of which nearly 800 billion was private-label ABS. They

[12] CGFS (2009) suggests a *financial stability hierarchy* of capital inflows: equity safer than debt; long-term debt safer than short-term debt, and domestic currency debt safer than foreign currency debt.

[13] See the chapter "Banks and Capital Flows" (pp. 81-99) of CGFS (2009).

[14] For instance, Catte et al. (2010) used the Bank of Italy's global macroeconomic model to simulate more expansionary policies in surplus countries and less expansionary policies in deficit countries. Not only would current account imbalances over the 2002-2007 period have remained almost unchanged, but the housing price increases in the United States would have been much smaller and closer to historical experience.

estimate that this increased foreign demand lowered US Treasury yields by 130 basis points and ABS yields by 160 basis points.

Sinn et al. (2011) describe similar developments before the crisis within the euro area. Large-scale intra-European capital flows were fuelled by the common currency and expectations of a bail-out "by the community of states should a particular European state run into trouble".[15]

In the early stages of the recent crisis, the market value of international banks with large subprime exposures fell sharply. Since the onset of the euro area crisis, the exposure of banks to peripheral European states came under strong scrutiny, and there were renewed falls in the equity valuations of banks.

In retrospect, lenders (and the rating agencies!) should have exercised greater prudence. European banks were negligent in assuming –and their regulators in allowing– such exposures. (The nationalization of the US mortgage agencies saved official investors from the emerging market economies.)

This failure of lenders is not a new phenomenon. A key lesson from a succession of emerging market crises in the 1980s and 1990s was that lenders –particularly banks in the advanced economies– had been reckless. This was quite clear even at the time. It is useful to recall this history. The oil-producing countries placed the surpluses generated by the 1973-1974 oil shock on short-term deposit with international banks. With deep recession, there was little demand for investment funds in the industrial world, so the international banks eagerly courted borrowers in the developing world. A major underpricing of risk developed. The central banks supervising the major banks were fully aware of this risk but were unable to curb the growth of international bank lending.[16]

[15] They argue that such flows could have been limited "had German banks shown more prudent investment behavior." In addition, major international banks, before the crisis, borrowed euros on a large scale in Germany to onlend to borrowers in other euro area countries.

[16] See Lamfalussy's (2000, pp. 9-13) description of how the governors of the G10 central banks struggled to contain this expansion of international bank lending. They worried

The banks took little or no notice of repeated warnings (including the publication of country-by-country bank exposures in the BIS's international banking statistics).

The conclusion from this history and from the recent crisis is the same: *overlending* was as responsible for the ensuing crises as was *overborrowing*. Lending banks suffered losses and stopped lending. This sudden reversal badly hurt borrowers, who would have been better served by more moderate lending restraint applied earlier.

Conclusion

The financing of large and persistent external deficits often takes dangerous forms. Capital flow reversals, always difficult to predict, can have devastating consequences for debtors. The stock dimensions of external imbalances –net external positions, leverage in national balance sheets, currency/maturity mismatches, the structure of ownership of assets and liabilities, overreliance on debt and the impact on bank credit– can threaten financial stability in both creditor and debtor countries.

For these reasons, creditor countries have a responsibility both for avoiding *overlending* and for devising cooperative solutions to excessive or prolonged imbalances. The need for some symmetry in adjustment between creditors and debtors is hardly novel. It was central to Keynes's proposals for international monetary arrangements in the post-war world. It is within the IMF's mandate (although creditor countries, which do not need IMF money, are less susceptible to their influence).[17] Mateos and Lago (and other IMF economists), Truman, Reddy and Aglietta, all put emphasis on this in their contributions to

that publication by the BIS of very large country exposures could spook banks and the markets. In the event, the data were virtually ignored.

[17] The articles of agreement on the IMF did incorporate a scarce currency clause which permits tariffs and export restrictions on countries with persistent current account surpluses. But this clause, which was the only one referring to the responsibilities of surplus countries, has never been invoked.

the Palais Royal Initiative. It has been on the agenda for international monetary reform since the Committee of Twenty in 1974. It is now on the agenda of the G20. It remains an important, but as-yet-unresolved, issue of international monetary reform.

Kiyohiko G. Nishimura

Interregional Financial Cooperation: Another Layer of Financial Cooperation toward Financial Stability

First of all, I am grateful to the organizers for inviting me to the 60th anniversary commemorative conference of CEMLA, a symbol of financial cooperation among central banks in Latin America. I am especially thrilled, because this is the ideal opportunity to discuss international monetary stability and central bank cooperation from the integrated perspective that spans Latin America and Asia. Latin America and Asia are among the most developed regions in terms of financial cooperation.[1] Today, I would like to take the concept of financial

[1] CEMLA began its activities in 1952, merely seven years after the end of World War II. Asia and the Pacific (hereafter, referred to simply as Asia unless otherwise noted) also has a long and very active history of regional financial cooperation. The central bank leaders of seven South East Asian nations gathered in Bangkok, Thailand, in 1966, and established the foundation of SEACEN, which plays an important role as a training and learning hub in the region. In 1982, the SEACEN Center was established to provide the secretariat function in Kuala Lumpur, Malaysia, and has since been hosting and

Deputy Governor, Bank of Japan.

cooperation one step further by considering the topic of interregional financial cooperation. Although the theme of financial cooperation at the global, intraregional, and bilateral level has been discussed at a variety of international forums such as G20, I believe interregional financial cooperation, especially between Latin America and Asia, represents another important layer between the global and the intraregional or bilateral levels.

Latin America and Asia in the 21st Century: From Low to High Correlation

Let me begin by giving a brief summary of the linkage between Latin America and Asia with respect to real economic and financial activities, focusing particularly on the period since 2000.

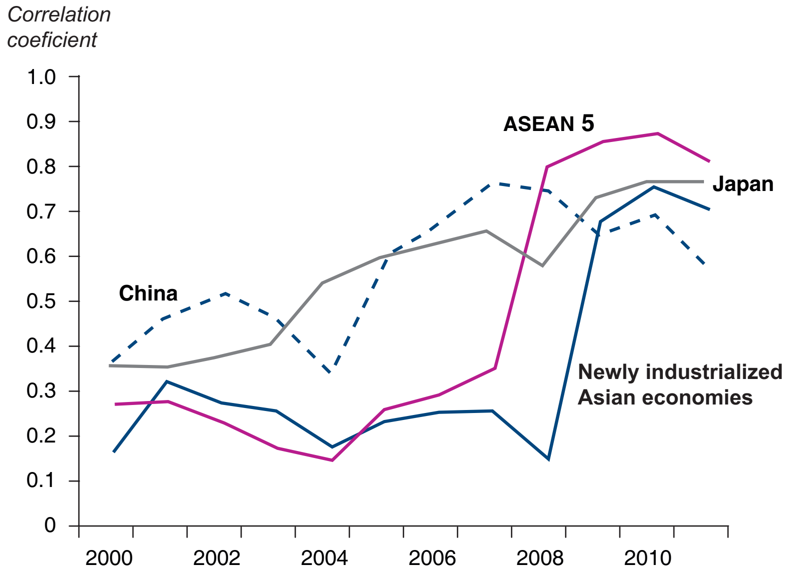
Both regions have experienced several large-scale financial crises since the 1980s, namely the Mexican debt crisis in 1982, followed by the so-called Tequila crisis in 1994, the Asian financial crisis in 1997 accompanied by the Russian crisis, and the Argentine crisis in 2000. However, roughly speaking, this period in our history also highlights the fact that, until the collapse of Lehman Brothers in 2008, we had never faced a large-scale financial crisis simultaneously. In fact, the cross-country correlation of real GDP growth between Latin America and Asia shows relatively small coefficients in the early 2000s (Figure 1). The reason could be that the regions are geographically distant, and thus relatively less influenced by each other, particularly in terms of trade activity.

However, this relationship had already begun to change during the era of the so-called Great Moderation, and has changed dramatically since the Lehman shock and the recent European sovereign debt

co-hosting a number of valuable and timely seminars and conferences. Seminars and conferences were co-hosted with CEMLA, and the Bank of Japan contributed to them as a speaker and lecturer. In 1991, the Bank of Japan invited Asian counterparts to form EMEAP, consisting of 11 central banks and monetary authorities in the region. EMEAP has since then celebrated a number of concrete achievements in regional financial cooperation, including the establishment of the Asian Bond Fund.

Figure 1

CROSS-COUNTRY CORRELATION OF REAL GDP GROWTH BETWEEN LATIN AMERICA AND OTHER REGIONS/COUNTRIES[1]

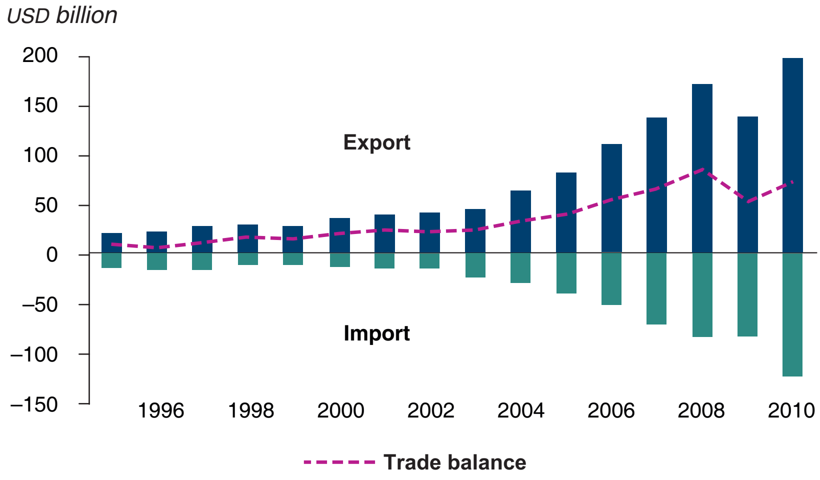


Source: IMF.
[1] Cross sectional data period is from 1990 to 2011.
Note: Newly industrialized Asian economies comprises Hong Kong, Korea, Singapore, and Taiwan. ASEAN5 comprises Indonesia, Malaysia, Philippines, Thailand, and Vietnam. Latin America includes the Caribbean countries.

crisis. In fact, the above-mentioned cross-country correlation shows a significant increase since 2008 in the correlation coefficients of all major Asian economies, following a gradual increase in China and Japan a few years earlier. Although geographical distance has not changed, our mutual dependency in trade has dramatically increased since the mid-2000s, driven largely by China, and owing to significant improvements in transportation technology and a decline in various trade-related costs (Figure 2).

Figure 2

DEEPENING TRADE RELATIONSHIP BETWEEN LATIN AMERICA AND ASIA



Source: UNCTAD.
Note: Latin America comprises Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Mexico, Paraguay, Peru, Uruguay, and Venezuela. Asia comprises ASEAN (Brunei, Cambodia, Indonesia, Laos, Myanmar, Malaysia, Philippines, Singapore, Thailand, and Vietnam), China, Japan and Korea.

The linkage of trade, and thus economic and financial activities, between Latin America and Asia is expected to be strengthened further in the future. Trade volume is determined by the size of population and the degree of complementariness of goods and services, if transaction costs are sufficiently small. The combined populations of Latin America and Asia are forecast to remain at more than 60% of the global population. As income levels increase, the two regions combined are expected to become one of the largest consumer markets in the world (Table 1). Moreover, the two regions have a well-balanced supply-and-demand relation, ranging from agricultural goods and raw materials to capital

Table 1

POPULATION DYNAMICS IN LATIN AMERICA AND ASIA

	1950	*1970*	*1990*	*2010*	*2030*	*2050*
World population (billion)	2.5	3.7	5.3	6.9	8.3	9.3
Share of world population (%)	61.4	64.8	68.0	68.3	66.4	62.8
Latin America	5.9	7.1	7.7	8.0	7.9	7.6
Asia	55.4	57.8	60.3	60.4	58.5	55.3

Source: United Nations.

goods. This implies that future trade activity in a combined Latin America and Asia can be self-sustained without having to rely substantially on advanced countries. As mutual linkage of economy is enhanced through trade, eventually so is financial linkage between the two regions, including an increase in foreign exchange transactions for the purpose of real demand and hedging, as well as an increase in stock price correlation reflecting active cross-border corporate transactions.

This heightened interdependency of economy and financial markets implies that a financial crisis in one region has a direct impact on the other. Moreover, as the importance of a combined Latin America and Asia increases, so too does the chance that they happen to become the epicenter of a global financial crisis. In this regard, policy makers of the two regions are mutually responsible for the stability of the global economy and financial market. To fulfill such responsibility, financial cooperation should not be confined to one region.

Latin America and Asia have many issues in common. Addressing capital flows is one such issue. A variety of regulations and macroprudential measures has already been introduced, and has been to a certain extent effective in each of the jurisdictions or regions. However, more structural issues associated with financial stability should be discussed, not only at the intraregional level, but also at the interregional level between Latin America and Asia. These structural issues include the development of liquid and deep capital markets, and improvements in financial infrastructure, including deregulation and harmonization of regulations. Moreover, from a longer-term perspective, issues related to population aging, and corresponding arrangements of social security and tax systems, also need to be considered comprehensively with an interregional view in mind.

Asian Experience on Financial Cooperation

Let me now turn to the Asian experience on financial cooperation, anticipating similar discussion of the Latin American experience later from other participants.

Vulnerabilities in Asia

Although overall economic and financial stability has been improved remarkably in Asia since the Asian financial crisis, there are still vulnerabilities in the region. First, there remains the double-mismatch of currency and maturity in the banking sector. Such vulnerabilities materialized in some Asian economies when US dollar liquidity dried up after the collapse of Lehman Brothers. We have seen similar impacts recently with the deleveraging by European banks. Second, in Asia, including Japan to some extent, the financial intermediation function has still been served largely by indirect financing, mostly through banks. Given this financing structure, a large negative shock hitting financial institutions makes it difficult for non-financial corporations to gain smooth access to debt financing from these institutions, almost regardless of their financial soundness. Third, there is still the issue of scant investment opportunities in Asian local currencies. Abundant savings in Asia have not been invested sufficiently within the region, and have thus eventually been invested outside the region, such as in bonds in the United States and developed Europe.

To put it in a different perspective, the Asian financial sector remains highly dependent on banks, indicating the underdevelopment of regional bond and other capital markets. Owing to such an unbalanced market structure, Asian economies are exposed to the risk that domestic asset prices become volatile because of rapid global capital flows, resulting in a sharp increase in the volatility of foreign exchange rates. Also, the immature local derivatives market makes appropriate risk-taking transactions difficult, as risk-hedging instruments are limited (Figure 3). Moreover, owing to their less-developed securitization markets, Asian economies do not sufficiently enjoy the merits of the securitization schemes that attract a variety of investors depending on their risk-taking capacities (Table 2).

Authorities' Efforts to Address Vulnerabilities

How have the Asian authorities responded to these vulnerabilities? I would like to explain their efforts in three aspects.

To Develop Local Currency-denominated Bond Markets

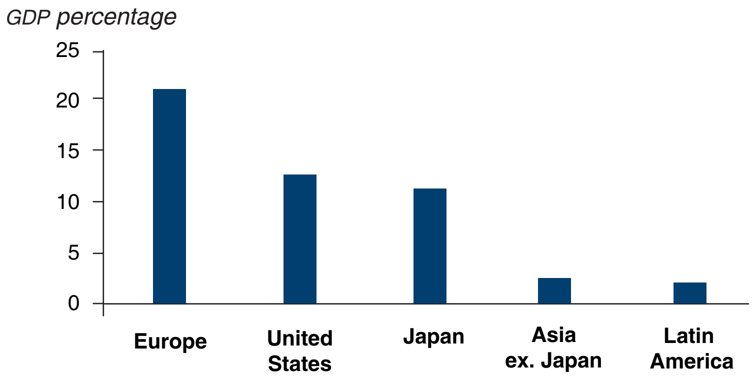
The first is a project aimed at developing liquid bond markets to provide a bridge between abundant local savings and local investments: the ABF of EMEAP, and the ABMI of ASEAN+3.

The Executives' Meeting of East Asia-Pacific Central Banks (EMEAP) established the Asian Bond Fund (ABF) investment trust in 2003, and became the initial buyers by investing in sovereign and quasi-sovereign bonds in the eight member jurisdictions. When it was launched, the Fund was limited to investment only in US dollar-denominated bonds. However, since 2005, the Fund has begun to include those denominated in the local currencies of the eight members. In addition, EMEAP launched an exchange-traded fund (ETF) called the Pan Asian Index Fund (PAIF). The PAIF was first listed on the Hong Kong Stock Exchange in 2005, and later cross-listed on the Tokyo Stock Exchange in 2009.[2]

[2] Each listed fund, as well as the PAIF, aimed at raising awareness among private investors, has steadily gained recognition among investors, although the extent of this recognition varies across the markets. Moreover, the project has been functioning as a catalyst for improving market infrastructure, such as deregulation and exemption of withholding taxes for non-resident investors, through its reviewing process among the EMEAP members.

Figure 3

ASIA'S VULNERABILITIES: UNDERDEVELOPED DERIVATIVES MARKET
National amounts outstanding of OTC equity-linked derivatives (end-June 2010)



Sources: BIS; Bloomberg; IMF; United Nations.
Note: GDP data of Bolivia, Colombia, Guatemala, Suriname, Fiji, Laos, Maldives are estimates. GDP data of Latin America do not include the Falkland Islands (Malvinas islands).

Table 2

ASIA'S VULNERABILITIES: UNDERDEVELOPED SECURITIZATION MARKET

	Asia (except Japan)	*Japan*
Change in newly issued amount from 2006 to 2011 (percent)		
Corporate bonds	377.4	27.2
Securitized products	–10.7	10.6
Securitized products/corporate bonds (newly issued amount in 2011)	3.5	28.4

Source: Dealogic DCM Analytics.

As part of the ASEAN+3 process, the authorities have launched the Asian Bond Markets Initiative (ABMI),[3] aimed at promoting bond markets. The most notable recent achievement is the establishment in November 2010 of a trust fund in the ADB called the Credit Guarantee and Investment Facility (CGIF). The CGIF plans to start its credit guarantee operations for local currency-denominated corporate bonds issued in the ASEAN+3 jurisdictions in the third quarter of 2012 at the earliest. At the Finance Ministers' and Central Bank Governors' Meeting in May this year, another new roadmap for the ABMI was proposed and endorsed to further promote resilient capital markets in the region, for example, by improving the regional credit rating system, developing small and medium-sized enterprises' finance and securitization markets, and raising the level of financial education.

To Establish and Enhance a Currency Swap Network

The second response by Asian authorities to the region's vulnerabilities is a project to establish and develop a mutual framework of US dollar liquidity provision, called the Chiang Mai Initiative (CMI). Aimed at improving the region's resilience against external shocks, the CMI started building a bilateral currency swap network in the region, which involves a contingent claim on foreign currency reserves held by each ASEAN+3 authority. The CMI has since enhanced its effectiveness by increasing its size and the number of participants. In fact, in March 2010, the authorities evolved the CMI framework from its original bilateral swap arrangements to the multilateral Chiang Mai Initiative Multilateralization (CMIM), which is a collective decision-making framework signed by all member jurisdictions in a single contract.[4]

[3] ABMI advocates four main issues, namely *i)* facilitation of demand for local currency-denominated bonds, *ii)* promotion of their issuance, *iii)* improvement of the regulatory framework, and *iv)* improvement of the relevant infrastructure for the bond market.

[4] At the same time, the authorities expanded the total borrowing amount from USD 90 billion to USD 120 billion, enabling prompt and effective US dollar support in times of crisis. Moreover, at the above-mentioned Finance Ministers' and Central Bank Governors' Meeting, the authorities agreed to double the size of the CMIM to USD 240 billion, and expand its scope to also cover crisis prevention.

To ensure the effective implementation of crisis prevention and actual US dollar liquidity support, it is essential for the authorities to monitor closely the regional economy and financial markets, and exchange views on their respective macroeconomic policies. The ASEAN+3 authorities thus established their own but independent surveillance unit, called the ASEAN+3 Macroeconomic Research Office (AMRO), in Singapore in April 2011.

Recent Efforts to Enhance Financial Stability

In addition to the above-mentioned two projects, momentum is building among Asian central banks to make cross-border collateral arrangements (CBCAs), aimed at further enhancing financial stability in the region. CBCAs are arrangements whereby a central bank provides local currency liquidity by accepting foreign currency assets, such as sovereign bonds in foreign countries, as eligible collateral. Such arrangements already exist in some advanced countries. CBCAs are thought to be an effective framework particularly in times of short-term money market stress. Foreign financial institutions' branches and subsidiaries often lack stable local funding sources, such as retail deposits. However, under a CBCA, they can still continue to provide credit to their customers, who are in most cases branches and subsidiaries of non-financial corporations domiciled in their home countries.

In fact, a CBCA was established in November last year between the Bank of Japan and the Bank of Thailand, as there are many Japanese non-financial corporations operating in Thailand. At almost the same time, a CBCA was announced between Bank Negara Malaysia and the Monetary Authority of Singapore, and early this year between Bank Negara Malaysia and the Bank of Thailand. Meanwhile, EMEAP has formed an action group and made a CBCA reference template for their future expansion in the region. So far, they are bilateral negotiations between two jurisdictions, depending on their necessity.

Moreover, Japan and China are making efforts to enhance mutual cooperation toward the development of financial markets in the two largest Asian economies. Owing to cooperation between the authorities and private market participants, many tangible outcomes have already been achieved, including the purchase of Chinese government bonds by the Japan's Foreign Exchange Fund Special Account and the start of direct exchange between Japanese yen and Chinese renminbi on the Tokyo and Shanghai markets.

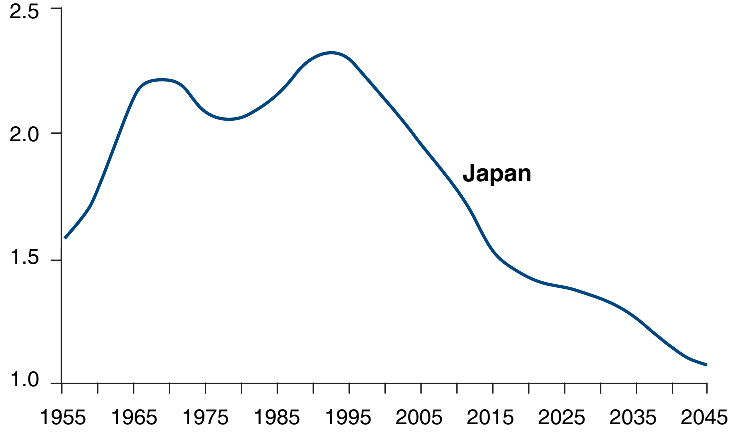
Toward Interregional Financial Cooperation

As economic and financial linkages deepen, I believe that the above-mentioned efforts and issues addressed in Asia can be shared more or less with Latin America. Both regions also have common structural problems. I believe that it is fruitful for regions bearing similar problems to resolve them collaboratively.

Figure 4

JAPAN: POPULATION CHANGE

Inverse dependency ratio[1]



Source: United Nations World Population Prospects: The 2010 Revision Population Database.

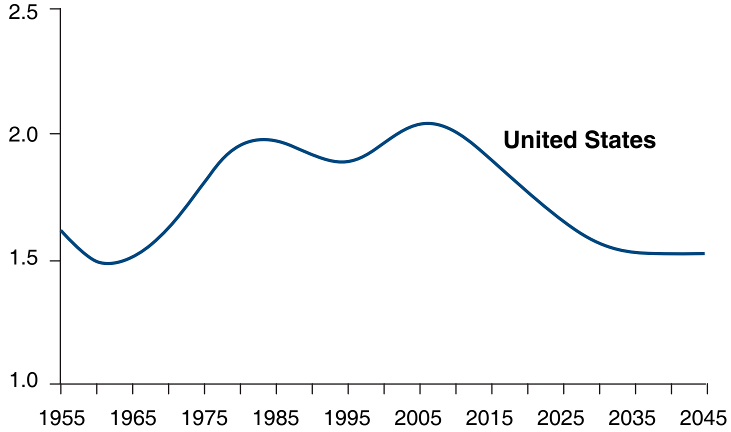
[1] Ratio of working-age population to the rest = How many people of working age have to provide for one dependent person?

First, let me raise the issue of demographic change and economic potential. Figures 4, 5, 6, and 7 show the ratio of working-age population to the rest, that is, how many people of working age have to provide for one dependent person, for Japan, the United States, Asia, and Latin America, respectively. Low fertility rates and population aging have been the main cause of prolonged low economic growth in Japan since 1990. This is also likely to become a big issue even for Korea and China in the not-so-distant future. Some Latin American countries may also have similar concerns, although the degree varies across jurisdictions. Having this future vision well in mind, we have to be prepared even now to implement the necessary social reforms, including the restructuring of social security systems, tax reforms, and revision of employment systems.

Figure 5

UNITED STATES: POPULATION CHANGE

Inverse dependency ratio

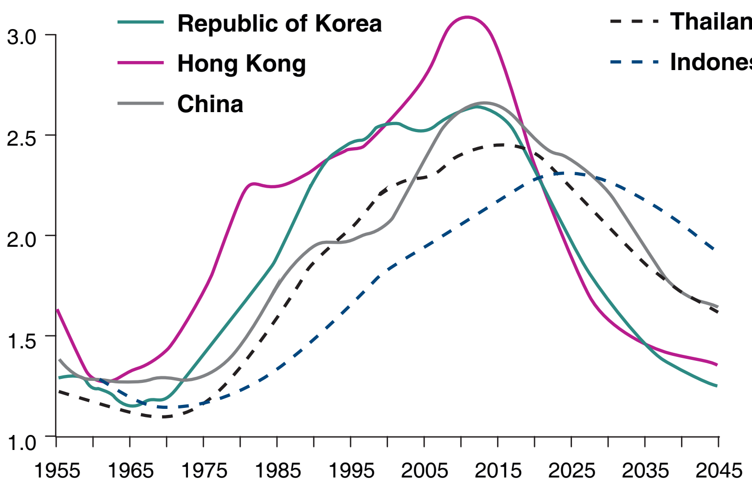


Source: United Nations World Population Prospects: The 2010 Revision Population Database.

Figure 6

ASIA: POPULATION CHANGE

Inverse dependency ratio



Source: United Nations World Population Prospects: The 2010 Revision Population Database.

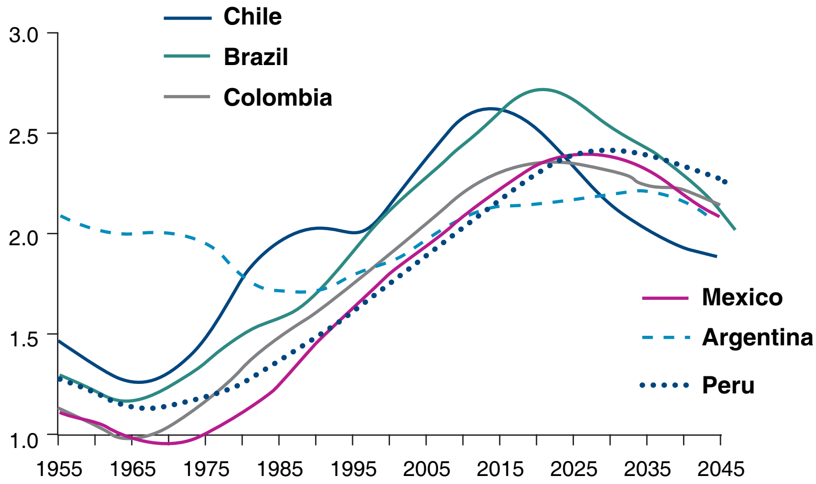
Second, let us consider the development of asset prices and credit expansion. In Figures 8, 9, 10, and 11, the development of property prices and loans in real terms is added to the chart of the working-age population ratio (inverse dependency ratio) in the Figures 4, 5, 6, and 7, respectively. In Japan and the United States, we see a significant relation between population dynamics and real asset prices. A similar tendency is also observed in China, as representative of Asia, and Brazil, as representative of Latin America. Whether this development leads to the generation and bursting of asset bubble depends largely on future policy implementation in the respective regions.

To address these structural problems, it might be more effective for both regions to collaborate, rather than to deal with them individually

Figure 7

POPULATION CHANGE: LATIN AMERICA

Inverse dependency ratio



Source: United Nations World Population Prospects: The 2010 Revision Population Database.

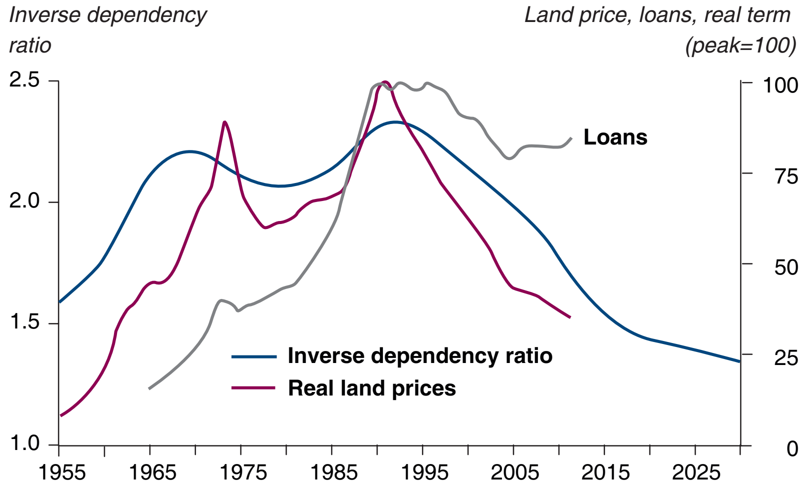
and independently. The following three points are also issues to be considered cooperatively.

First, as an economy develops and a middle-income class emerges, we need to implement measures to realize a more balanced growth between domestic and external demands. At the same time, the population eventually ages as the economy matures, and thus the key to success will be the promotion of domestic demand appropriately in line with the developmental stage of the economy.

Second, from the viewpoint of reducing asset price volatility, it is also important to further develop regional capital markets with the aim of enhancing resilience against external shocks. In this regard, we need to take into account market differences within the region.

Figure 8

JAPAN: POPULATION CHANGE AND ASSET PRICE



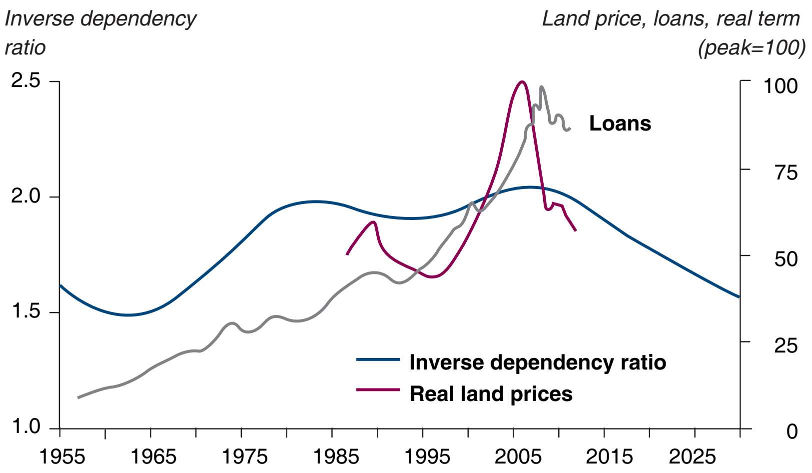
Source: United Nations; Japan Real Estate Institute; Japan Ministry of Internal Affairs and Communications; Bank of Japan.

Third, it is essential for each jurisdiction to harmonize its market regulations and practices with the global standards in promoting cross-border transactions. However, unilateral effort by a single jurisdiction has its limitations, and thus collective effort is desirable to improve market infrastructures effectively in both regions. While respecting diversity across jurisdictions, we should not introduce arbitrary regulations or ignore global contractual practices.

Needless to say, even if we are successful in dealing with these issues, we cannot completely prevent financial crises. However, we can improve our resiliency in times of crisis by preparing multi-layered safety nets as backstops in the financial system. Such safety nets include the development of deep and liquid capital markets, the establishment of currency swap networks, and cross-border collateral arrangements.

Figure 9

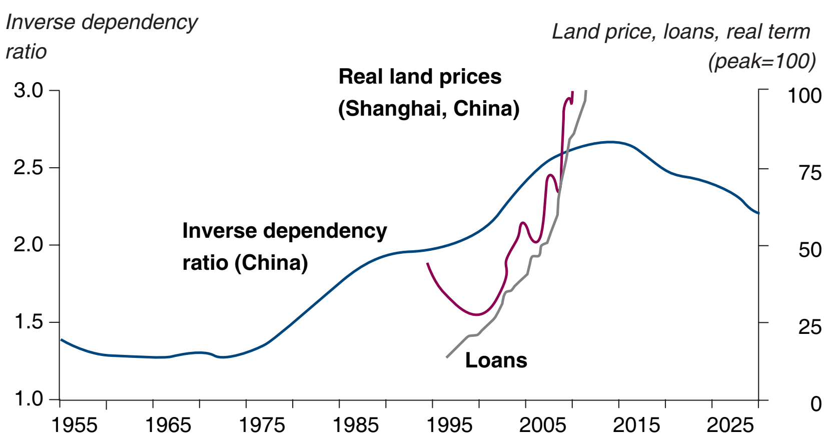
UNITED STATES: POPULATION CHANGE AND ASSET PRICE



Sources: United Nations; Standard and Poor's; US Bureau of Labor Statistics; Federal Reserve.

Figure 10

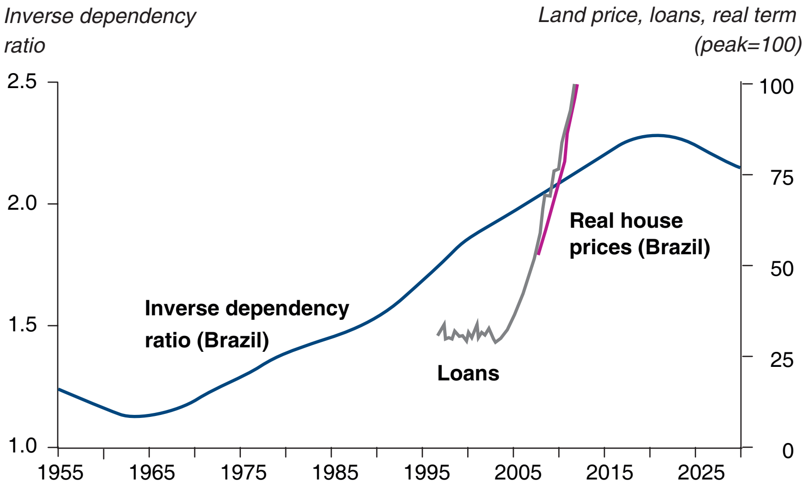
CHINA: POPULATION CHANGE AND ASSET PRICE



Sources: United Nations, CIEC.

Figure 11

BRAZIL: POPULATION CHANGE AND ASSET PRICE



Sources: United Nations; FipeCap; CIEC.

Moreover, it is also important to establish solid foundations for individual and regional economies by addressing at an early stage long-term social structural problems such as declining fertility rates and population aging. A resilient real economy is an indispensable factor in financial stability.

Daniel Heller

Monetary Stability and Central Bank Cooperation

The debate on how and to what extent central banks should cooperate has been going on ever since the Bretton Woods system collapse in the early 1970s. With the outbreak of the financial crisis in 2007, the issue of policy cooperation among central banks has regained momentum. New elements such as considerations for the stability of global financial system have become topical.

This article consists of three parts. First, it briefly reviews the academic debate on the benefits and drawback of central bank cooperation which took place following the collapse of the Bretton Woods system. Second, it provides an overview of the main elements of central bank cooperation during the current financial crisis. And third, I illustrate how the monetary policy of the Swiss National Bank (SNB) has been responding to the external shocks that were triggered by the crisis.

Swiss National Bank. I would like to thank Roberto Cippà, Andreas Fischer, Thomas Moser, Brigitte Schällibaum and Sébastien Wälti for helpful comments and discussions. The views expressed here are mine and not necessarily those of the Swiss National Bank.

1. The Academic Literature

The academic literature can basically be divided in two groups. One finds that cooperation is essential and beneficial, the other one identifies only very limited benefits, if any. Pioneering work by Hamada (1976) and others find that non-cooperative solutions are typically not efficient whereas international cooperation maximizes global welfare. For instance, under flexible exchange rates, independent and non-cooperative central banks may have an incentive to engage in *competitive devaluation.* Monetary policy becomes much less effective.

Rogoff (1985), on the other hand, points out that cooperative central banks have an inflation bias. This leads to an overall level of inflation which is too high. Thus, Rogoff concludes that in fact cooperation might be counterproductive. As he puts it, "welfare in one or both countries may be higher when central banks conduct their monetary policies independently" (p. 200).

Which view actually prevails among central banks today? Of course, central banks have always been cooperating in institutions like the BIS (Bank for International Settlements) or CEMLA. But in essence it is safe to conclude that central banks nowadays typically set their monetary policies independently. Of course, the Plaza and Louvre Accords (1985 and 1987) are prominent examples of policy cooperation among central banks. But these are exceptions rather than the rule. Many central banks and economies have learned to live with significant exchange rate fluctuations and have focused on maintaining domestic price stability or levels of inflation. This policy is often referred to as the *keeping your house in order* approach. This is very much in line with Rogoff's findings. Global welfare is maximized if each central bank targets price stability or a low level of inflation, and responds flexibly to shocks to its economy (Jordan, 2012).

2. Central Bank Cooperation during the Crisis

Even though central banks have been focusing very much on domestic price stability, the current financial crisis brought about some unprecedented coordinated measures among central banks. Let me provide two examples. On October 8, 2008, six central banks, the Bank of Canada, the Bank of England, the European Central Bank (ECB), the Federal Reserve, the Riksbank and the Swiss National Bank (SNB) lowered their policy interest rates in a concerted manner.

Cooperation also extended beyond conventional monetary policy. Already on December 12, 2007, the ECB, Federal Reserve and the SNB announced coordinated measures designed to address continued elevated pressures in the USD short-term funding markets. These measures implemented via inter-central-bank swap lines secured access to USD liquidity of banks domiciled in the euro area and Switzerland. By the end of 2008 the Federal Reserve had established such swap lines with 14 central banks (Allen and Moessner, 2010). A number of similar arrangements among other central banks were put in place at regional level. In retrospect, these measures proved very successful in keeping the global financial system functioning. This was crucial in the aftermath of the collapse of Lehman Brothers in mid September 2008.

With this extensive network of inter-central-bank swaps central bank cooperation has clearly entered a new era. The motivation for the swap lines was neither monetary policy nor balance of payments problems. They aimed at maintaining the stability of the global financial system by securing the short-run liquidity of internationally active banks.

3. Monetary Policy of the SNB during the Crisis

Throughout the crisis the SNB has been affected in manifold ways. In the early phase of the crisis one of the systemically important Swiss banks was heavily affected by protracted losses on its real estate linked assets. In September and October 2008, market confidence in that bank evaporated rapidly. With the aim of halting this negative dynamics, the Swiss Confederation injected new capital and the SNB purchased a sizeable amount of toxic assets from that bank. This intervention turned out to be quite successful. The bank was stabilized quickly. The Swiss

Confederation sold its capital share one year later with a sizeable profit. By the end of 2011, the SNB had liquidated 75% of the toxic assets with only limited losses.

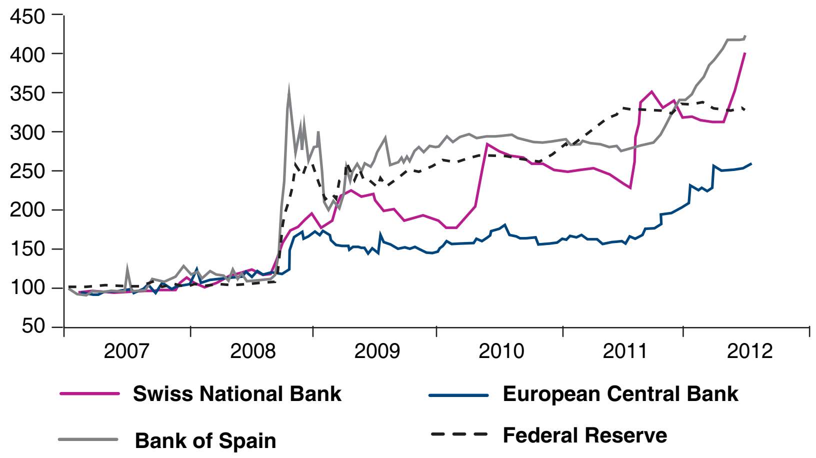
It is also important to note that Switzerland's fiscal situation has remained sound throughout the crisis. Gross public debt has been declining since 2004 and is currently around 35% of GDP. Real GDP growth has been negative in the second half of 2008 and the first quarter of 2009. Since then, however, quarterly GDP growth has been between 1 and 4 percent.

Nonetheless, monetary policy has been heavily influenced by the financial crisis. This can be seen in Figure 1. The balance sheet of the SNB has been growing roughly in line with the one of the Bank of England or the Federal Reserve, but more pronounced than the one of the ECB.

Figure 1

CENTRAL BANKS' TOTAL ASSETS

Index 100=1.2007

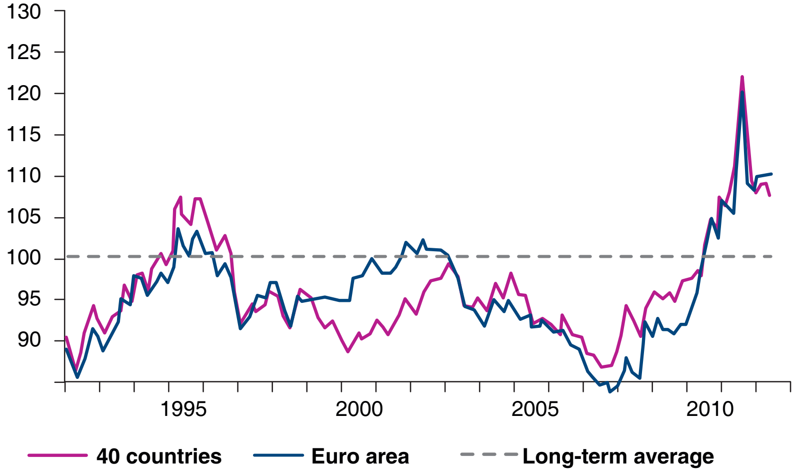


Sources: SNB Markets Analysis Platform, ISDA.

Figure 2

EXPORT-WEIGHTED REAL EXCHANGE RATE OF SWISS FRANC

Monthly data. Index January 1999 = 100



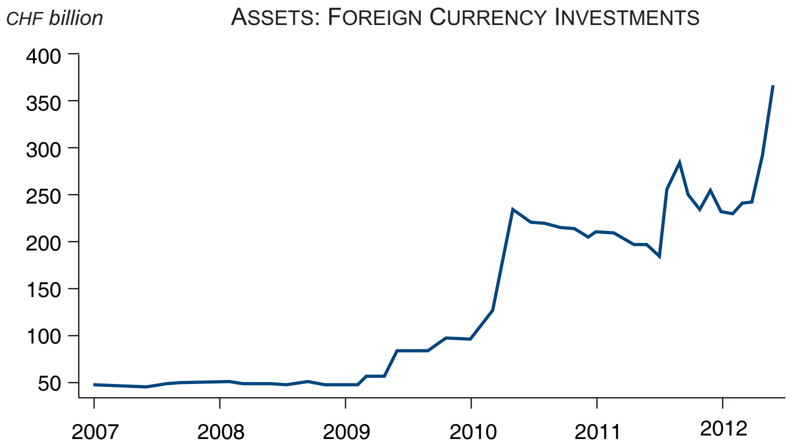
Source: SNB.

The key challenge for monetary policy has been the upward pressure on the exchange rate which was triggered to a very large extent by the debt crisis in the euro area. This is illustrated in Figure 2. Safe haven effects started to materialize in 2008 when the export weighted real exchange rate was still undervalued. In early 2010, the exchange rate began to climb above its long-term level. In the second quarter of 2009 the SNB started to intervene moderately into the FX market. The SNB declared not to tolerate a further appreciation of the franc. In December 2009, given the improvement in the state of the economy, the SNB softened its stance and announced that it would not tolerate an *excessive appreciation*. With money inflows becoming larger, the SNB intervened more heavily (see Figure 3). Between January and May 2010, the foreign exchange reserves of the SNB increased from CHF 93 billion to CHF 238 billion. The SNB stopped its interventions at the end

Figure 3

FX RESERVES OF SWISS NATIONAL BANK

Monthly data. Index January 1999 = 100



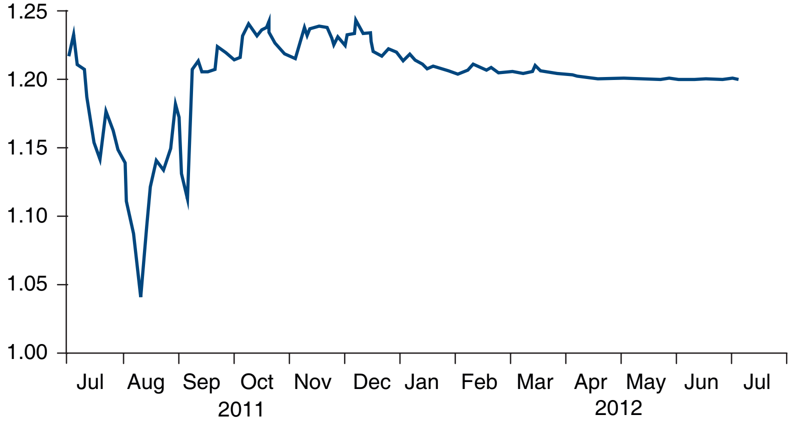
Source: Swiss National Bank.

of May 2010 when deflationary pressures eased (SNB, 2010). It is worth noting that the SNB interventions did not keep the Swiss franc from appreciating, but they have slowed the speed of the appreciation.

As the debt crisis in Europe worsened the Swiss franc kept appreciating. In August 2011 the exchange rate vis-à-vis the euro was approaching parity (see Figure 4). At this point in time the exchange rate was at a level which was impossible to explain purely by fundamentals. It posed a serious risk to the economy. In addition, deflationary pressures had again become reality. In order to avoid the collapse of the economy, extreme measures needed to be taken. Conventional monetary policy was not an option since short-term interest rates had been at zero since 2009 already. Due to the very limited size of the domestic debt market, quantitative easing was also not a viable solution.

Figure 4

CHF-EURO EXCHANGE RATE



Sources: SNB Markets Analysis Platform, Bloomberg.

On September 6, 2012, the SNB introduced a floor to the exchange rate at 1.20 Swiss franc per euro. The SNB announced its commitment to buy unlimited amounts of euros in order to defend this floor. Since then the exchange rate stayed above the floor. In May and June 2012, however, the floor has been maintained only thanks to substantial interventions by the SNB.

In the context of cooperation among central banks, one may ask whether the exchange rate floor of the SNB violates international guidelines such as those stipulated by the International Monetary Fund (IMF). Members of the IMF are obligated to "avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members".[1]

[1] Articles of Agreement of the International Monetary Fund, Art. IV, Section I (iii),

Clearly, the exchange rate floor of the SNB is consistent with international obligations. With the monetary policy rate at the zero-interest rate floor and inflation at zero and falling, the large appreciation of the Swiss franc carried the risk of a deflationary development. It is an emergency measure that we do not take lightly. In this context it needs to be stressed that at the current level the Swiss franc is still overvalued (see Figure 2). Rather than providing competitive advantages to the Swiss economy the intervention limited the damage to the Swiss economy. In spring 2012, the policy of the SNB was assessed by the International Monetary Fund in its Article IV consultation. The report concludes that "the introduction of the exchange rate floor was an appropriate policy response to the risk of economic contraction and deflation" (IMF, 2012, p. 17).

4. Conclusions

The financial crisis has put forth an additional rationale for cooperation among central banks. In order to preserve the stability of the global financial system, concerted actions may be necessary and appropriate, be it in the form of simultaneous policy rate cuts or be it in the form of inter-central-bank swap lines.

But the crisis has also shown that in a world of free capital movements and floating exchange rates, some countries may be adversely affected by external factors to an extent that the domestic economy is severely threatened. While many emerging economies have been experiencing this repeatedly in the past, it is a quite uncommon experience for Switzerland. Since the late 1970s the SNB had only very sporadically intervened in the FX market (Fischer and Zurlinden, 1999).

Obviously, the current policy of the SNB is not risk free. In today's highly interconnected global economy and financial system, no country is immune to contagion. But ultimately, someone needs to bear this risk. In our case, the SNB is absorbing these risks in order to protect the economy.

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Panel 2
Central Bank Cooperation: The Experience of Emerging and Developing Economies

Emsley Tromp

Central Bank Cooperation: The Experience of Emerging and Developing Economies

First, allow me to congratulate CEMLA on its 60th anniversary. For the past 60 years, CEMLA has consistently promoted better knowledge of financial and monetary topics in Latin America and the Caribbean through cooperation among the region's central banks. This cooperation has evolved according to the prevailing economic conditions, developments in economic thinking, and political views. Against this background, I would like to discuss the experiences of emerging and developing economies in the area of central bank cooperation.

Central banks have a long tradition of cooperation. Over time, the objective of cooperation has shifted from monetary stability toward the more comprehensive issue of financial stability, and the intensity and forms of cooperation have changed. During the 1920s, central bank cooperation was aimed primarily at sustaining the gold standard. In the 1960s, central banks cooperated mainly to maintain the Bretton Woods system of fixed but adjustable exchange rates. Because of the

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disappointing experiences with foreign exchange rate interventions in the 1970s, central banks became more inclined to preserve monetary stability through domestic monetary policy actions than through international policy coordination. As financial markets became more integrated because of technological developments and financial innovations, in the 1980s and 1990s central banks cooperated largely on development and introduction of international standards for prudential regulation and coordinated financial sector supervision. During the international financial crisis that started in 2007, central banks coordinated their efforts to fight systemic liquidity risks and, through monetary policy coordination, attempted to reduce the risk of deflation and prevent a deep global recession.

Cooperation among central banks is important both at a global and regional basis. Cooperation is encouraged at a global level and carried out at a regional level to account for regional differences. In the case of emerging and developing economies, cooperation among central banks follows by and large policies agreed upon by multilateral institutions. The Bank of International Settlements is of course the best example of a global organization for discussion, consultation, and cooperation among central banks. Meanwhile, CEMLA promotes cooperation between central banks on a regional level. In fact, as mentioned by Javier Guzmán this morning, CEMLA has played a key role in the promotion of regional coordination through a global perspective. Hence, CEMLA has become a global regional player.

Over time, the number of central bank organizations in our region has increased and includes organizations such as the Central American Monetary Council (CMCA), the Fondo Latinoamericano de Reservas (FLAR), and the Caribbean Centre for Money and Finance. The main reason, perhaps, for the increasing number of regional organizations is that certain exchange rate and financial stability issues are regional in nature and directly impact a particular region. Such issues can be best addressed regionally. Also, some emerging and developing economies have claimed that the global organizations are overwhelmingly oriented toward the Western economies. However, the risks always exist that a proliferation of regional organizations may result in fragmentation of our coordination and cooperation efforts leading to less effective results.

Cooperation and coordination of central banking activities is very important for emerging and developing economies. Central banks in industrialized economies usually have just one responsibility, that is, conducting monetary policy with the single objective of maintaining price stability. In contrast, central banks in emerging and developing countries usually have several tasks in addition to monetary policy. These tasks include debt management, advice to the government, and financial sector regulation and supervision. As a consequence, these central banks have to pursue several objectives in addition to exchange rate stability and promotion of economic growth. At the same time, the resources of these central banks, in particular financial and human resources, often are limited. Therefore, cooperation and coordination with other central banks can be very beneficial for these institutions.

Central banks are willing to cooperate as long as they pursue common goals. This cooperation can take several forms, the simplest of which is the exchange of information and experiences. In the case of the emerging and developing economies, cooperation between central banks in this area is crucial given their relatively limited human and financial resources. First, central banks exchange data and forecasts, which enable them to compare and discuss economic and financial conditions and trends. In this context, the standardization of concepts and the availability of data are crucial. Second, central banks share and discuss theories, empirical studies, and research. This exchange will enhance their understanding of economic issues such as inflation targeting, potential output, exchange rate behavior, the transmission mechanism, and equilibrium interest rates. Also, central banks exchange information about their policy choices and approaches, which can stimulate policy coordination among central banks.

CEMLA has played an important role in our region in the area of dissemination of information and experiences among central banks. Over the years, the Center has organized several seminars on statistical methodologies and theoretical approaches. In addition, the CEMLA regularly publishes and distributes empirical studies by central bank researchers in the region and organizes seminars and conferences to discuss the empirical findings.

A second area of cooperation between central banks is the provision of emergency assistance in exceptional circumstances. Over time, central banks have supported each other in situations such as liquidity crises in order to mitigate systemic liquidity risk. This emergency assistance has included, among other things, coordinated foreign exchange operations. In the past, several central banks in the emerging and developing economies received emergency liquidity assistance. For example, during the debt crisis of 1982, the Federal Reserve of United States offered the Bank of Mexico a USD 700 million swap agreement. During the currency crisis of 1994, the Bank of Canada offered Mexico a short-term swap of USD 1 billion. Furthermore, Brazil received financial support from the Bank of International Settlements in 1998 in the context of an IMF stabilization program. During the recent international financial crisis, a new form of cooperation emerged in the provision of emergency assistance. Major central banks, including the Federal Reserve and the European Central Bank, opened up inter-central bank swap facilities and repurchase agreements to provide central banks with emergency liquidity.

In my view, the third and most ambitious form of cooperation between central banks is coordination of monetary and exchange rate policy. The rationale for policy coordination in these two areas stems from the potential externalities that domestic policy in one country can have on other countries, i.e., the *beggar-thy-neighbor* policies. For example, monetary tightening in one country to reduce inflation will lead to exchange rate appreciation and hence may cause inflationary pressures in a trading partner of that country. As a result of increased globalization, these spillover effects have become more apparent.

However, after the fall of the Bretton Woods system in 1971, the appetite for coordinated monetary policy and exchange rate intervention declined. Central bankers had a common belief that the best way to achieve monetary stability was through domestic policies. As a result, central banks became less inclined to trade off their policy autonomy for global or regional policy coordination in the areas of monetary and exchange rate policy.

However, the recent international financial crisis has resulted in an intensification of monetary policy coordination. In October 2008, the Federal Reserve together with the Bank of Canada, the Bank of England, the European Central Bank, the Central Bank of Sweden, and the Swiss National Bank announced a reduction of their policy interest rates to counterbalance deflationary pressures and an economic slowdown in these countries. In my opinion, this joint intervention signaled the return of monetary stability as an important objective of central bank cooperation. Hence, today, central bank cooperation is aimed at maintaining both monetary and financial stability.

Finally, financial sector regulation and supervision is a fourth area of cooperation among central banks. While most industrialized countries have separate authorities in charge of financial sector regulation and supervision, in most emerging and developing countries this task is concentrated at the central bank. Hence, this area of cooperation is very relevant for our region.

As I mentioned, because of technological advancements and financial innovations, the financial markets have become more integrated across countries. To promote financial stability, central banks have been cooperating in the area of financial supervision and prudential regulation. Besides central banks, policymakers and other market players also have been involved in these international efforts. One example of successful cooperation among central banks in this area is the Basel Committee on Banking Supervision. In addition, central banks participated in the Financial Stability Forum. In our region as well, we have several central bank organizations aimed at promoting financial stability.

Notwithstanding these efforts, the world economy experienced a major financial crisis in 2007. We are still experiencing the effects of this crisis. In an effort to prevent a collapse of the global financial system, authorities, particularly in industrialized countries, took unprecedented measures aimed at supporting demand and reducing uncertainty and systemic risk in financial markets. Meanwhile, through multilateral cooperation and collective policy actions among for example the members of the G20, the effects of this financial crisis were mitigated. This multilateral cooperation and policy coordination has reshaped the cooperation among central banks in emerging and developing countries.

Economists and policymakers worldwide agree that the weaknesses that led to this financial crisis should be addressed. Financial regulation and supervision need to be strengthened to prevent a similar crisis in the future. This will require a number of steps.

1) Regulation should be broadened to include all activities that pose economy-wide risks.

2) Financial regulation will have to focus on strengthening financial institutions' management of liquidity and risks.

3) Conflicts of interest should be reduced by making bonuses more consistent with long-term success than with short-term profits.

4) The transparency of the financial system should be improved. In the area of financial supervision, the focus should be on detecting developments in the financial sector that might lead to a systemic crisis.

An important lesson of the last international financial crisis is that international cooperation and policy coordination are crucial to maintain financial stability. Hence, these issues are currently being addressed on a global and regional level.

International and regional cooperation in this area is very important for the Centrale Bank van Curaçao en Sint Maarten to promote financial stability in our monetary union and to strengthen our position as an international financial centre. Our Bank is currently a member of several international and regional organizations aimed at promoting financial stability. These include, among others, the Association of Supervisors of Banks of the Americas (ASBA), the Group of International Finance Centre Supervisors (GIFCS), the Caribbean Group of Banking

Supervisors (CGBS), the Offshore Group of Insurance Supervisors (OGIS), the International Association of Insurance Supervisors (IAIS), the Council of Securities Regulators of the Americas (COSRA), the Caribbean Group of Securities Regulators (CGSR), and the Offshore Group of Collective Investment Schemes Supervisors (OGCISS).

Colleges of supervisors are an important example of regional cooperation providing an effective and efficient supervisory oversight on cross-border financial institutions. Therefore, within the Dutch Kingdom, which comprises the Netherlands, Aruba, Curaçao, and Sint Maarten, we also are increasing cooperation and coordination of our policy initiatives in the areas of financial sector supervision and regulation. We have created a financial supervisory structure in which each country within the Kingdom has its own supervisory institutions complemented by a standard-setting body at the Kingdom level: the Committee of Kingdom Supervisors.

This Committee consists of the presidents of the respective central banks and is charged with preparing legislation in line with international best practices, the timely implementation of rules and regulations, and monitoring compliance. Such a structure while regional, guarantees compliance with international supervisory standards. In addition, it creates a level playing field with uniform rules within the Kingdom and promotes credibility and transparency.

In my opinion, a new economic order has emerged as a result of the international financial crisis. This new economic order has reshaped cooperation between central banks. First, the scope of central bank cooperation has broadened and deepened. For the past 30 years, the main focus of central bank cooperation was financial stability. Today, central bank cooperation is aimed at both monetary and financial stability. Second, while industrialized countries were the key players in global governance before the financial crisis, today emerging economies also are actively involved in the international decision-making process with regard to efforts and interventions for monetary and financial stability. The emerging economies have gained this position thanks to the many structural reforms they have introduced over the years. As a result of these reforms, these countries remained a source of strength for the global economy during the recent crisis.

In conclusion, during its 60 years of existence, CEMLA has witnessed several forms of central bank cooperation. Today, the aim is to promote both monetary and financial stability. Also emerging economies, including those in our region, are now playing a key role in the governance of central bank cooperation. The 60th anniversary of CEMLA is an occasion for not only celebrating but also reaffirming our commitment to close cooperation in order to achieve monetary and financial stability, crucial for sustainable economic advancement of our countries, the region, and the world in general.

Mario I. Blejer

Financial Crisis and Central Banks: Impact on Inflation Targeting and Independence

I would firstly like to thank CEMLA and its authorities for their kind invitation to participate at this anniversary. This was the first place I worked after graduating 35 years ago, and I have very fond memories of my time here at CEMLA. At that time I would probably not have thought, or even agreed, with what I wrote for this speech, but as lord Keynes said, when conditions change one must also change one's mind. The opposite would be stubbornness.

It is very clear today that the international financial crisis has raised fundamental questions regarding central bank mandates. During recent decades central banks have focused on price stability as their sole and overriding objective. This focus supported the ascendancy of inflation targeting as the preferred monetary policy framework and, in turn, encouraged the operational independence of central banks. The policy has given results: the discipline imposed by the strict and meticulous

Former governor, Central Bank of Argentina.

concentration on one sole objective has allowed authorities to control –and defeat– inflation.

However, this strict approach meant the authorities neglected the formation of asset and commodity price bubbles, and overlooked the resulting instability in the banking sector. This factor alone calls for a study of the overall effectiveness of inflation targeting. Moreover, after the financial crisis erupted, central banks felt increasingly compelled to abandon inflation targeting and implement a wide range of unorthodox monetary measures to mitigate the consequences of the collapse and facilitate economic recovery.

As advanced economies struggle to avoid financial collapse, free themselves from recession, reduce unemployment and return to growth, central banks are being called upon to address, sometimes simultaneously, growing imbalances. This has triggered the search for a radical redefinition of their objectives and has cast doubts on the advantages of them maintaining their independence.

In particular, the behavior of central banks during the crisis has led to questions over whether the inflation targeting framework is effective in cases of systemic crisis and, more generally, whether it can be sustained throughout economic cycles. After all, a regulatory regime that sets aside its sole objective during a crisis seems to lack the ability to cope with unexpected problems. Critics identify this *crisis straightjacket syndrome* as the main problem with single-minded inflation targeting.

Although theoretical arguments can be made to justify recent departures from policy, the reality is that in the postcrisis world, the objectives of advanced countries' central banks are no longer limited to price stability. In the USA, the Federal Reserve has essentially adopted a quantitative employment target, while other countries are debating targets for nominal GDP and other variables. And financial stability is once again a central bank responsibility, even for the more conservative European Central Bank.

This shift toward multiple policy objectives inevitably reduces central bank independence. Some analysts have recently claimed that this is because the pursuit of GDP growth, job creation and financial stability, as well as the establishment of priorities when there are tradeoffs, clearly requires political decisions, which should not be made by unelected officials alone. Moreover, by pushing interest rates toward zero, the current policy of quantities easing (increasing money supply by buying government bonds) has strong, often regressive, income effects. Opponents of such central bank independence contend that, given the consequences –in allocation and distribution issues– of current monetary policy interventions, central bank decision making should be subject to political control.

Nevertheless this argument does not consider one important detail. Although it is true that multiple policy targets tend to increase political sensitivity of central bank decisions, concentrating only on price stability also has significant distributional and political implications. In fact, politicization is a matter of scale and not a fundamental transformation of monetary policymaking.

The real reason why central bank independence tends to create a democratic deficit under a multi-target monetary policy regime, and why it has become increasingly vulnerable, is that the two main arguments in favor of it no longer apply.

The first argument in favor of central bank independence is that, without it, politicians can exploit expansionary monetary policy's short term effects at election time, without regard for its long-term inflationary consequences. (By contrast, fiscal and exchange rate policies rarely imply comparable temporary trade-offs, and therefore difficult to exploit for political gains). However, this argument becomes irrelevant when ensuring price stability is no longer monetary policymakers' sole mission.

The second argument for institutional independence is that central banks have a clear comparative advantage in dealing with monetary issues, and can therefore be trusted to pursue their targets independently. Nonetheless this advantage does not extend to other policy areas.

Given that central banks are likely to continue to pursue multiple objectives for a long time to come, their independence will continue to be eroded. As long as governments do not encroach excessively on central bank decision making, this development will restore balance in policy-making and support policy coordination, particularly at times of stress.

To ensure a positive outcome, the authorities must develop a fully transparent framework with well-defined *rules of engagement*. A strict framework for allowing, and at the same time limiting, government involvement in central bank decision making is particularly crucial in emerging markets, given that in most of them central bank independence has contributed not only to the eradication of inflation, but also to institution building.

Central bank independence is a peculiar institutional innovation. Certain seemingly irrefutable theoretical models have an underlying paradigm that has changed significantly and that, if preserved, is bound to cause serious political problems. Like it or not, policymakers must accept that central bank independence will continue to weaken and they must prepare to cope with the consequences.

Julio Suárez

Central Bank Cooperation: The Experience of Emerging and Developing Economies (Central American Economies)

Many thanks to Javier Guzmán and all the team from CEMLA for the invitation to participate in this important conference on Central Bank Cooperation at the Beginning of the 21st Century. I will try to make my comments from a practical point of view, focusing mainly on coordination and its benefits for Central American countries, taking into consideration that they are very small economies with strong trade links, sharing a common market and being members of an economic block dating back to the 1960s. They also have cooperation mechanisms in several fields of economic policy, although I believe this has been much deeper in the monetary and financial areas through their respective central banks. It is also important to underline the role performed by CEMLA in establishing central bank coordination mechanisms, not only through the assemblies of governors or participation in the different forums, meetings and workshops it organizes, but also through the

Vicepresident of the Bank of Guatemala.

publication of documents containing research and technical offerings, making a significant contribution to training staff at our central banks.

As I mentioned, Central America's experience in cooperation topics stems from the 1960s with the creation of the Central American Integration System. This process of integration led to the emergence of a series of institutions designed to bolster such process, among them was the Central American Monetary Council (CMCA) made up of the governors of Central American central banks and more recently the central bank of the Dominican Republic. The Council is the main forum for discussing high level monetary policy topics in the region. It created a permanent Secretariat in charge of continuously tracking the different mandates emitted by Central American Integration System (SICA) meetings of presidents and the CMCA, providing a true coordination mechanism for the region's central banks. Among the other functions carried out by said Secretariat it is important to mention that of overseeing interregional cooperation on a variety of topics linked with monetary, financial, balance of payments and national accounts matters, as well as other central bank administrative and operational issues.

One important result of these cooperation models has been the shaping and homogenizing of monetary and financial, as well as balance of payments and national accounts, statistics. Besides elaborating joint methodologies among central banks, these processes have enabled the exchange of knowledge and experiences that have contributed to reducing the costs, both financial and in terms of human resources, of elaborating or applying said methodologies. In addition, the fact that it is a joint regional effort has meant greater leverage of technical assistance provided by the International Monetary Fund and other cooperation bodies. This exchange of experiences, besides contributing to building internal skills, has been used as an example by other groups of countries.

Coordination and cooperation mechanisms among the region's central banks, deriving from the goals obtained, has encouraged the creation of other boards on different monetary policy areas. One of these is the regional Board of Banking Supervisors that partly resulted from the growing cross-border presence of local banks in different countries of the region. Operation of this Board has allowed joint meetings to be held between regional central bank and supervisory authorities for addressing issues related to banking and financial stability, a relevant topic in central bank efforts to maintain price stability. Among the results achieved are technical studies on regional financial stability and financial system strengths, and the sharing of the benefits of applying standards and regulations for improving the functioning of the region's financial systems with the aim of reducing systemic risks in both domestic and regional spheres.

Just as many of the world's central banks, those of the region have generally had to coordinate efforts designed to bolster their independence and autonomy in the face of the constant threats they have faced for using monetary, exchange and credit policy for populist aims, an aspect that limited the proper use of the latter for achieving its fundamental objective of price stability and led to significant economic imbalances during the 1980s. Such efforts were mostly successful due to the fact that all the banks face a general problem, meaning it was possible to address it from different angles as the actions different central banks adopted or discussed at that time to face such threats became known. In many cases legal changes were required, while in others constitutional changes, but all were generally aimed at assuring the independence and autonomy of central bank decisions, striving for adopted decisions to be based on technical discussion.

These cooperation processes have also included experiences that were not so successful, such as the Central American Clearing House. The latter was designed as a mechanism for exchanging payments linked to regional trade and had to be abandoned due to the difficulties faced by countries in the region during the 1980s, resulting in interregional debts. Nonetheless, although not so successful, it demonstrated that, if thought out differently, a mechanism of this nature could be very useful for facilitating commercial transactions between countries. Thus, the Central American Monetary Council recently agreed to create the Payments Interconnection System among countries of Central America and Dominican Republic. This is proving to be very useful for settling different business transactions where risk is not assumed by central banks but by private participants. The mechanism allows real time payment through participants' local bank and central banks only provide the infrastructure for making such payment possible.

There is also growing interest in strengthening monetary policy management, taking into account the best practices applied in other countries. Thus, some of our countries adopted an inflation targeting regime a short time before the crisis or very close to it. Such process has implied many challenges given that small economies are highly exposed to external shocks, and often requires more complex analysis instruments than those required under the framework of monetary aggregates. This has led to the need to seek cooperation mechanisms with central banks that have more experience with said regime. The experience of Guatemala has been particularly enlightening because we have had the cooperation of the central banks of England, Czech Republic, Chile, Colombia, Mexico and Peru from which we have received high quality technical assistance on different topics, including governance, communication, econometric models, semi-structural and structural macroeconomic models, prediction models, the strengthening of monetary policy transmission mechanisms, money and foreign exchange markets, etc. All of these have helped improve the staff's technical abilities and the way they make policy rate decisions, i.e., bolstering the role of management bodies, but above all improving transparency and accountability. The process has been made much easier by the cooperation received from different central banks and the participation of our staff in a series of forums, seminars and workshops organized by international financial bodies, central banks or institutions such as CEMLA.

The road we have traveled has also allowed us to share our experience with other central banks of the region and we have promoted and accommodated what we have learned. Together we have taken advantage of technical assistance from the International Monetary Fund and the Central America-Panama-Dominican Republic Regional Technical

Assistance Center, which provides technical assistance to central banks of the region, as well as ministries of finance, tax administrations and bank supervisors.

Another area where we have also obtained significant cooperation is through participation in the World Bank's Reserves Advisory and Management Program (RAMP), where four other countries of the region participate. This program aims to effectively contribute to the adoption of international best practices and standards on international reserves management at central banks. It is a learn-by-doing program and by its very nature allows authorities and staff from central banks around the world to exchange experiences. Guatemala is a *graduate* of the program, and besides receiving technical assistance, our staff now also provide knowledge and experience on this topic to other central banks.

One initiative that I consider important to mention at this discussion on central bank cooperation, particularly successful for Guatemala, is the Programa de Estudios Superiores en Banca Central carried out jointly with CEMLA. The Program was started in order to reinforce the skills of central bank technicians. It has trained staff from central banks, students from the different universities of Central America and officials from other public and private institutions in Guatemala. The participation of students not linked to central banking is considered very positive because, besides increasing the level of knowledge, it has contributed to improving the understanding of reasons behind central bank policies and forming opinion leaders with a broader knowledge of central bank topics. This program has had a high level of teaching staff, many of them officials at other central banks.

In conclusion, I would like to emphasize the fundamental role central bank cooperation has played in maintaining price stability and a healthy and stable financial system in the region.

Panel 3
Technical Cooperation among Central Banks

Jorge Roldós

Presentation

I would like to congratulate CEMLA on its 60th anniversary and thank Javier Guzmán for the invitation to participate in this important event. I will focus my remarks on the fruitful collaboration we have recently established between CEMLA and the IMF's Institute for Capacity Development.

As you probably know, the IMF Institute for Capacity Development (ICD) delivers training for country officials on macroeconomic and financial issues. This is done in our headquarter offices as well as through our global network of Regional Training Centers (seven RTCs) and Regional Technical Assistance Centers (nine RTACs). The new ICD is trying to emphasize a better coordination of technical assistance and training activities. This has the potential of bringing even closer our collaboration with CEMLA that is currently focused on delivering three courses per year in Latin America. These courses form part of some of our most advanced curriculum, and were prepared to satisfy the needs of the more advanced countries in the region. As an example of what we do, I will focus next on two of them.

Assistant Director, IMF Institute for Capacity Development.

The course on "The Use of DSGE Models for Policymaking" was prepared in response to a request from several central banks during a meeting with heads of training from the region in Washington in 2008. Although some courses on DSGE models had already been delivered in the region, we wanted to focus on the use and interpretation of the models. Indeed, this is a course targeted to the user of the models, not the modelers themselves –although the latter may also find value in the course. The main goal was to open up the *black box* feature that sophisticated models usually present to model users, or to those who provide inputs to the modeler. In this vein, the course presents and discusses simple models, adding sequentially relevant frictions and shocks, to study the economics behind the transmission mechanisms of the shocks. Each simple model is used to discuss the policy options facing country authorities when they are hit by one of these shocks. In view of some of the criticisms about these models' failure to predict the recent financial crisis, the course also discusses when and how to use the models, as well as how to combine them with inputs from other sources.

The other course, on "Macroprudential Policies," evolved from a series of courses on lessons from the recent financial crisis. After a summary on these lessons, the course moves on to review the weaknesses of the microprudential approach and addresses both dimensions of systemic risk: procyclicality and cross-section spillovers. On procyclicality, the course describes some of the approaches taken in a number of emerging market countries to deal with the issue, as well as new regulatory tools such as dynamic provisions and countercyclical capital buffers. On cross-section spillovers, the course has one conceptual/theoretical section followed by a corresponding workshop on the more established approaches: the Network and Co-VaR approaches. Finally, the course also discusses issues related to the architecture of macroprudential policies, sketches some of the ways in which financial frictions are introduced into DSGE models and what this means for the interaction between monetary and macroprudential policies.

In sum, the courses address some of the more pressing, current issues central banks are grappling with, and have received very good evaluations by participants from the region. CEMLA has been an excellent partner in this venture, allowing us to fill relevant gaps in our curriculum and we are ready to do more with them. In particular, we would also like to organize jointly higher-level seminars and other *multilateral* cooperation events –including with our colleagues from Asia.

Jürgen Sterlepper

Technical Cooperation among Central Banks: The Case of the Bundesbank

The Beginning of Technical Cooperation at the Deutsche Bundesbank

With more than 20 years of experience in technical central bank cooperation (TCBC), the Bundesbank looks back on a varied past not only in terms of its range of activities but also with regard to the rapid political developments of recent years. Since its conception, the Bundesbank has always been available to provide foreign central banks with guidance and assistance as and when the need arose. However, the historic events of the early 1990s, notably the end of the cold war and the fall of the former Soviet Union, saw the start of a new chapter for the Bank: the birth of TCBC as an institution.

The then-Vice-President and later President of the Bundesbank, Hans Tietmeyer, and many other members of the Central Bank Council

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Director of the Centre for Technical Central Bank Cooperation, Deutsche Bundesbank.

quickly realized the political significance of the collapse of the communist economic system and its knock-on effects on the entire economy, currency system and central banking of those regions affected. The Bundesbank was well aware of the fact that its stability policy responsibility did not just stop at Germany's borders. Thus, from the outset, it was open to any requests for training or advice from all corners of the world, and actively supported setting up and expanding market-economy central bank systems across the globe. Today, the Bundesbank provides tailor-made training and advisory services for central banks worldwide. By lending its wealth of experience and knowledge to the global development process, the Bundesbank is contributing to setting up and stabilizing financial systems in its partner countries.

Development of TCBC at the Deutsche Bundesbank

Basic Work after the Fall of the Iron Curtain (1990-1993)

After the fall of the Iron Curtain and the dissolution of the Soviet Union, the economic transformation process at the start of the 1990s triggered a restructuring of the financial system in almost all countries in central and eastern Europe. The banking system, which up until this point had been a single-tier, centrally planned system, was replaced with a two-tier system in which commercial and central bank functions were separate. Well-functioning, largely independent central banks armed with a set of effective monetary policy instruments and capable of promoting the process of monetary reform and economic stabilization in the transition countries were needed at the forefront of the newly structured banking systems. During the reform process, some countries were able to fall back on the fundaments of their existing state banks; however, others were faced with the challenge of starting from scratch.

In both cases, large hurdles had to be overcome in a relatively short space of time and groundbreaking work was necessary. Banks had little first-hand experience of market control mechanisms and indirect monetary policy instruments, as well as a shortage of the relevant theoretical and practical knowledge. Also, the political support required for the necessary reforms was initially lacking in many cases. Nevertheless, the reform process ultimately proved to be a success: inflation rates plummeted, national currencies became convertible and progress was made in setting up and monitoring commercial banks and financial markets, thus proving that reform was on track.

Strengthening Cooperation with Eastern Europe, Russia and other Former USSR Countries, and China (1993 - 2004)

Developments in the wake of the transformation process inevitably also had an impact on the process of European integration. After the Central and Eastern European states regained their full sovereignty, the focus shifted to paving the way for integrating these countries into the European Union (EU). With the criteria agreed in Copenhagen in June 1993, the EU stipulated the conditions that had to be met for further accessions to be accepted and, at the same time, also provided assistance and funds to enable candidates to adopt the *acquis communautaire*. This naturally included central banking as a crucial pillar for the smooth functioning of the monetary system. The Bundesbank's TCBC activities thus centred on helping central and eastern European countries navigate their way to the EU by improving their understanding of key central bank matters and aiding partner banks in meeting the legal, organizational and instrumental prerequisites. The Bundesbank (together with the European Central Bank) held several seminars on the EU accession process in Frankfurt. These seminars were aimed at ensuring a smooth integration of the accession countries' central banks into the European System of Central Banks (ESCB) and ultimately into the Eurosystem. In geographical terms, the Bundesbank focused on the Baltic states, Poland, the Czech Republic and Slovakia. This phase was concluded successfully with the accession of these countries to the EU on 1 May 2004.

Worldwide TCBC in Times of Globalization (2004 to present)

The increasing degree of integration between states places new demands on the cooperation between states and national institutions, which, as was the case with central banks in the past, often mainly focus on their own territory. This is all the more so in light of globalization. Firstly, the process of European integration is pressing ahead and has now reached the west Balkan countries. The European Neighbourhood Policy, adopted in May 2004, takes this further still. Secondly, increasing interdependencies have fuelled mutual interests worldwide. The fact that this does not merely involve the developed regions of the world but also those areas which the general public previously considered to be of secondary importance is illustrated for example by the EU's new Central Asia strategy from 2007 and the Federal President's Partnership with Africa programme. Not least the financial crisis in 2008 and 2009 demonstrated just how great the need is internationally to exchange ideas both bilaterally and multilaterally, for central banks as well. The Bundesbank is, and remains, a highly regarded and hence sought-after partner for such a global exchange. It has taken due account of current developments for TCBC activities in its Strategy 2016 and positioned itself accordingly. Activities therefore still centre on the EU accession and candidate countries, EU neighbouring countries, successor states to the former Soviet Union and important newly industrialized countries. Furthermore, the Bundesbank continues to develop its cooperation at regional level (*hub-and-spokes* approach) in Africa, Asia and Latin America.

Organizational Development of TCBC at the Deutsche Bundesbank

Initially, the Bundesbank's activities were coordinated by a small section of the *External* Department. In the beginning, the team had only four members of staff who had the support of specialists from the entire Bundesbank, e.g., from Central Office, the Regional Offices and the Bundesbank's University of Applied Sciences. This enabled all of the Bundesbank's resources to be used effectively for TCBC activities. The increase in demand in the following years was the basis for a significant rise in staffing. The Technical Central Bank Cooperation section was upgraded to a division. At the same time, the growing number of

TCBC activities led to the creation of new positions for TCBC specialist lecturers to cover core areas of central banking. In order to meet the special challenges posed by globalization, in mid-2005, the Bundesbank converted its Technical Central Bank Cooperation division into an independent Centre for Technical Central Bank Cooperation. Since 2011, this centre has become a division in the newly established department Economic Education, University and Technical Central Bank Cooperation. Today, about 28 staff members are employed in central bank cooperation –roughly half in project management and half in education and training.

The Meaning of Technical Central Bank Cooperation for the Deutsche Bundesbank

For Deutsche Bundesbank, Technical Central Bank Cooperation refers to the cooperation between central banks as equal partners. Its objective is to promote economic and financial stability in many countries through international cooperation and, consequently, to support the entire global financial system. Technical Central Bank Cooperation is very closely linked to the terms *capacity building* and *best practices* in central banking. The approach taken is geared less to theory, but instead spans the entire spectrum of central banking practice. Today emphasis is placed on the Bundesbank's five core business areas – cash management, financial and monetary systems, monetary policy, banking supervision, and payment systems. Whereas the initial focus was on imparting basic theoretical knowledge regarding the tasks and functions of central banks in market economies, during the catching-up process partner banks increasingly requested a forum in which to exchange practical experience. Roughly since the turn of the millennium, there has been a noticeable shift in demand toward specialist topics. Whereas monetary policy issues featured predominantly on earlier agendas, central banks' lists of requirements have since included issues related to banking supervision, financial market stability and internal central bank topics such as good governance in central banks. This undoubtedly reflects the shift in Eurosystem central banks' activities, especially since the introduction of the euro. As things currently stand, topics related to the financial crisis are likely to become even more important in the short to medium term. The operational implementation of our technical central bank cooperation is as varied as it is individual. The range of instruments employed includes basic seminars for new staff, advanced seminars, and experts participating in workshops and high-level panel discussions in an advisory capacity. This approach is born out of the simple realization that a mutual exchange of ideas and experiences on a central bank level is extremely useful and valuable for all concerned.

Today, the Centre for Technical Central Bank Cooperation has 28 employees, which means one Director, one Deputy Director, seven Senior Advisers, 19 Project Coordinators, Project Managers and support staff. Moreover the support from specialists from entire Bundesbank is available. The Deutsche Bundesbank offers about 300 Technical Central Bank Cooperation events a year, roughly half in Germany and half around the world. These events are attended by about 3,000 staff members of foreign central banks, approximately 1,000 of whom are our guests in Germany. The Bundesbank maintains more or less close contacts with over 80 central banks worldwide. The Bundesbank's Technical Central Bank Cooperation is very much demand-driven; in other words, we do not force ourselves on anyone. Our wish is not to *lecture* to our international central bank partners but to inform them and discuss with them –to inform them about how the Deutsche Bundesbank sees things, and to discuss any other professional opinions that might be voiced. Indeed, this is the cornerstone of all the activities of our central bank cooperation.

Our Relationship with CEMLA

The Deutsche Bundesbank's Centre for Technical Central Bank Cooperation has been working with the Center of Latin American Monetary Studies (CEMLA) since 1996. According to a decision taken on December 18, 1996, by the Bundesbank's then-Directorate, this partnership is classified as an affiliation with cooperation status, comprising both a content-related component and a financial contribution. In September 2011, this bilateral cooperation was strengthened further by signing a Memorandum of Understanding.

CEMLA as a center of regional monetary cooperation offers the Bundesbank the unique opportunity to share its knowledge, experience and procedures with central banks' staff from all Latin American and Caribbean central banks. In terms of content and conception alike, the Bundesbank's TCBC activities are always tailor-made and strive to fulfill the training and advisory requests as closely as possible. This prevents an oversupply of services, thus ensuring a better use of resources and greater time flexibility so that assistance can be provided in a timely and efficient manner. Since its conception, the key elements of TCBC have been not only the entire spectrum of the Bank's institutional knowledge but also the flexible toolkit at its disposal. All seminars, courses or workshops held in the framework of CEMLA focus on modern central banking questions, e.g., modeling and forecasting, macroprudential supervision, central bank governance or internal audit in central banks. Since the beginning of the relationship, the number of activities performed by Bundesbank experts has increased continually. In 2011, nine activities took place compared to two in 2005 and the number of South American participants reached 176 per year in 2011 compared to 36 in 2006.

Through all these years, the cooperation with CEMLA was very pleasant for us. We rely on the good organizational background in the CEMLA-headquarters in Mexico City, and we consider CEMLA as our platform to Latin America.

Hoo-Kyu Rhu

Technical Cooperation among Central Banks: SEACEN's Experience

Since its inception in 1982, The SEACEN Centre (SEACEN) has established its unique regional position in serving its membership of 18 central banks and monetary authorities in the Asia-Pacific region through its learning and research programs, and high-level networking and collaboration platforms for capability building in central banking knowledge. In celebrating its 30 years, SEACEN has built a wide collaborative network base beyond its membership, with an outreach of 17 other central banks and monetary authorities, which are termed as invitee central banks, which are invited to participate in SEACEN learning programs, as well as 26 regional and international strategic partners, including CEMLA, with which SEACEN collaborates in the design and delivery of its programs in central banking. SEACEN learning and research programs, and high-level platforms are focused on central banking knowledge of macroeconomic and monetary policy management; financial stability and supervision; and payment and settlement

Executive Director, The SEACEN Centre.

system. In addition, SEACEN also designs and delivers learning programs in leadership and central bank governance. Building on its best practices in learning, SEACEN programs are contextualized to meet the needs of SEACEN members, as well as measure the outcome of the learning experience.

Stemming from its vision to be, "the regional learning hub for central banks in the Asia-Pacific region," SEACEN is mandated to the building of capacity in central banking; and the fostering of networking and collaboration among SEACEN members in regional and international forums. To achieve its vision and mission, SEACEN has projected four value propositions, namely to, promote thought leadership; build regional views; share knowledge and expertise; and, to be a center of excellence in central bank learning. These propositions were crafted to enhance stakeholders' value, and the propositions can be achieved by establishing a strong faculty of experts; strengthening capability in curriculum development and research; spearheading forums for the deliberation on issues and challenges in central banking; and leveraging on knowledge management and information and communication technology to deliver learning programs and research output through collaborative tools.

In this integrated world, SEACEN views technical cooperation among the central banking fraternity as extremely important in the coming together for sharing of experience and exchange of ideas and views, on issues related, in particular to economic and financial matters affecting monetary and financial stability. This model can be evidently achieved through sharing of technical expertise among the fraternity; information sharing through collaborative platforms; working groups and task forces; and interregional cooperation.

Javier Guzmán Calafell

Technical Cooperation among Central Banks: The Case of CEMLA

1. Introduction

Technical cooperation has been one of the pillars of monetary cooperation for many years, although it has become more important recently. Technical cooperation undoubtedly contributes to attaining the ultimate objectives of central bank cooperation, i.e., financial and monetary stability, through several channels:

- Allowing the transfer of knowledge, encouraging central bank modernization and development.
- Providing a platform for exchanging points of view on topics of interest for these institutions and for fostering mutual knowledge of their policies.

Director General of the Center for Latin American Monetary Studies (CEMLA).

- Encouraging the homogenization of criteria and the adoption of common standards.

- Contributing to the creation of networks for communication with counterparties and the general consolidation of interinstitutional relations.

- Supporting the creation of consensus.

- Laying the foundations, during quiet times, for mutual help during difficult phases.

- Providing analytical tools for decision making.

The Center for Latin American Monetary Studies (CEMLA), founded on September 9, 1952, is the oldest institution for technical cooperation on monetary topics in Latin America and the Caribbean, and it is also the one with the widest regional coverage.

According to its statutes, the objective of CEMLA, its mission, is to promote knowledge of central bank topics in Latin America and the Caribbean. The pursuit of this goal has changed over time, but has generally been carried out through five activities: training courses, workshops and seminars; forums for discussing and exchanging experiences on the different fields of central banking; technical assistance programs on practical matters linked to improving policymaking, central bank systems and infrastructures; research in economic and financial areas; and disseminating information through specialized publications and other media.

Throughout its existence CEMLA has adapted to changing circumstances. However, despite the significant progress made, the challenges were particularly acute at the end of 2009. This was partly due to the budgetary restrictions the Center faced, at a time when a higher amount of alternative training on monetary and financial matters was being provided by international bodies and central banks with generally larger financial and human resources than those of CEMLA.

The aim of this paper is to describe the most important challenges faced by the Center toward the end of 2009 and the main elements of the strategy implemented to overcome them. It also offers a few thoughts on pending tasks and some of the goals CEMLA could set for itself in the medium and long terms.

2. Background

The main idea behind CEMLA was to create a teaching, research and information body through which monetary authorities and other financial entities from Latin America and the Caribbean could exchange experiences, improve their knowledge of monetary issues and disseminate them properly.

At the beginning, only six central banks answered the call to join the new Center.[1] After this a launching or consolidation phase began when the membership expanded considerably, reaching the current total of 53 members, including all the central banks and monetary authorities of Latin America and the Caribbean, a large number of the central banks of advanced economies, several financial supervisory authorities and other monetary and financial cooperation bodies.

Four phases can be identified from the creation of the Center until 2009.

The first of these could be described as the launch period, when relatively lengthy teaching and training activities constituted the spearhead of the Center's operations. The courses were of an academic nature and designed for a group of high-level professionals. At this stage the activities were based on a strategy of gradual progress, and information and research activities were begun.

The second could be classified as the consolidation phase when, besides training, other complementary activities such as seminars and meetings of specialists started to play a central role. At this stage a

[1] These were the central banks of Colombia, Cuba, Ecuador, Guatemala and Honduras, besides Bank of Mexico, which promoted the idea.

considerable boost was given to research by creating a specialized department, while CEMLA's publications also increased.

During these two initial phases, the Center filled a niche corresponding to the demand for training on financial and central bank topics that was not filled by central banks, international bodies or universities. High-quality training was offered in Spanish and there was a lot of demand for it.

In the third phase, courses were reduced and multi-annual analysis and technical assistance programs were created. During this stage universities and other regional education bodies improved their training on topics that had previously mainly been provided by CEMLA. The Center faced severe financial problems at this time, forcing it to significantly cut its staff and reduce several activities (such as research). Toward the end of this phase institutional efforts began to redefine functions, as well as some aspects of the Center's corporate governance.

Finally, in the fourth phase CEMLA bolstered its role of technical assistance coordinator through externally financed multiannual programs. It also made strategic alliances with different institutions and confronted the problem of the Center's finances. Corporate governance bodies were also reinforced during this stage to give the Center greater transparency. Meanwhile, research activities disappeared and austerity measures were applied to several areas of CEMLA's work.

In this context, toward the end of 2009 CEMLA had made important achievements:

- A trajectory of 57 years that had allowed the Center to consolidate itself as an important forum for informally discussing central bank topics and providing training on such subjects to the region's monetary authorities. It had also managed to become involved in important technical assistance tasks.

- CEMLA had a wide range of contacts at central banks and international bodies, and a solid capacity for organizing events at low costs.

- Despite the severe restrictions, there was an effort to continue providing quality products to the membership and even increase its offerings through new types of support.

- The sense of ownership shown by the region's central banks regarding CEMLA, i.e., a feeling of *belonging,* providing wide support for its activities and giving it significant rallying power.

- Successfully negotiating alliances with central banks and other international organizations, resulting in access to additional sources of funding for performing its activities.

Notwithstanding these achievements, the Center also had a number of weaknesses and challenges:

- The Center's work programs had been focused on increasing the number of activities without assigning priority to creating a balance between quality and quantity.

- The Center's capacity for contributing to the substance of the events it organized was insufficient.

- There was a need to improve mechanisms for identifying the needs of CEMLA's members. There was also a lack of efficient tools for monitoring and measuring the results of the different activities carried out by the Center and for collecting members' opinions on them.

- The research tasks that represented a central component of CEMLA's mandate had disappeared.

- The limited resources had significantly affected the Center's human capital and it lacked an adequate working environment for attracting, developing and holding on staff with the desired profiles.

- Both the physical and technological infrastructure had deteriorated substantially.

- There was no management and internal control model allowing detailed tracking of the different operational processes and completion of established targets.

One weakness that deserves more detailed analysis, due to its relevance as a factor explaining the problems faced by CEMLA at the end of 2009, is the deterioration of the Center's budgetary resources.

Associate and collaborator quotas are the main source of revenues for CEMLA. Although the institution has other sources of revenue, these are either insignificant or linked to specific expenditures or technical assistance programs. During the 2005-2009 period, associate and collaborator quotas represented around 97% of the permanent revenues at the disposal of CEMLA.

Adjustments in the Center's quotas since its creation have obeyed to a combination of factors (such as the entry of new members, the need for resources or the reallocation of institutional responsibilities). In this context, at several stages it was normal to make periodic reviews and adjustments of quotas, but this situation changed radically at the end of the nineties.

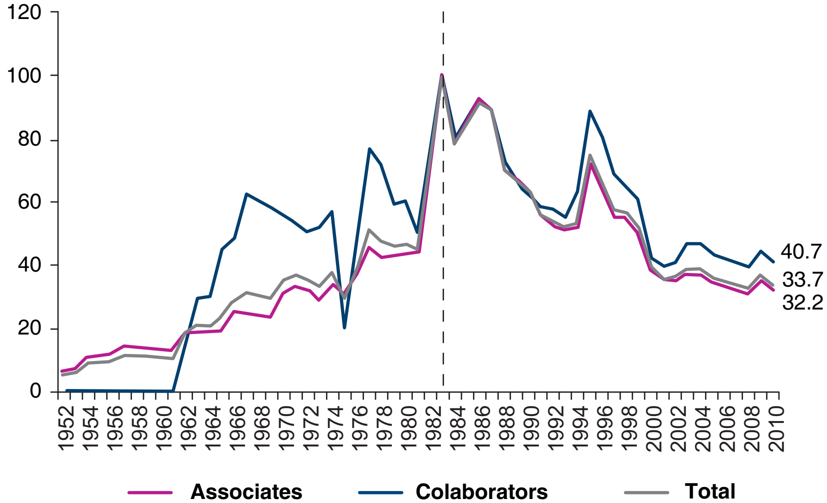
CEMLA's quotas increased in 1995 in order to maintain the real value of the Center's revenues. After that date quotas were reduced twice, the first in 1997 in response to an increase in CEMLA's assets during the previous two years, and the second in the year 2000 due to the creation of the Association of Supervisors of Banks of the Americas (ASBA) and the consequent end of CEMLA's responsibilities as executive secretary of the supervisors of independent financial entities. From the latter year onwards the Center's quotas remained at the same level in nominal terms.

The purchasing power of CEMLA's revenues therefore declined substantially. Figures 1 and 2 show several indicators in this regard for the 1952-2010 period. In Figure 1 the purchasing power of CEMLA's quotas is calculated based on a deflator including the price indexes of Mexico and the United States weighted by the relative participation of Mexican pesos and US dollars in CEMLA's expenditures. These calculations show how the quotas reached their maximum level in 1983, after

Figure 1

QUOTAS IN REAL TERMS TAKING INTO CONSIDERATION THE STRUCTURE OF CEMLA'S EXPENDITURES, 1952-2010

Index1983=100



Source: U.S. Bureau of Labor Statistics, Bank of Mexico, CEMLA.

which they followed a downward trend. As can be seen in Figure 1, real quotas declined 66% during the 1983-2010 period.

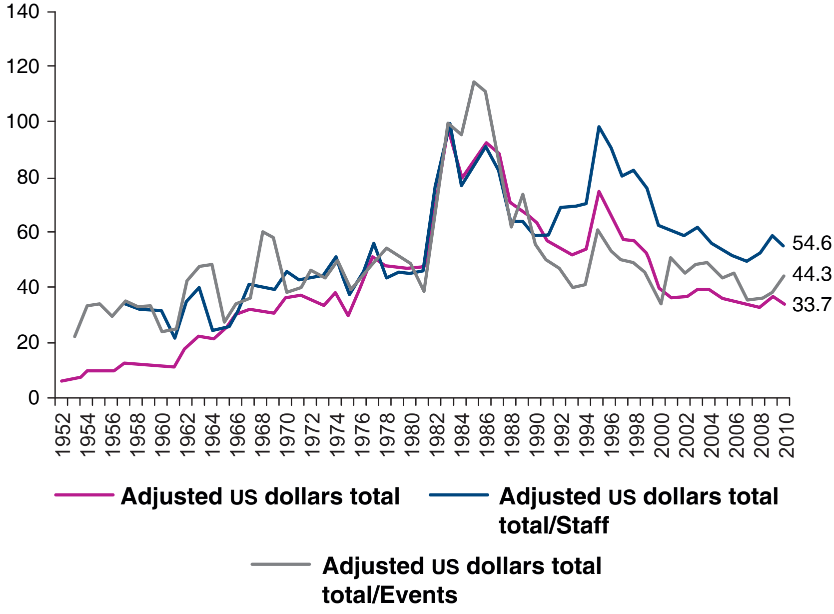
Of course, the above exercise only provides an approximation of the loss of purchasing power of CEMLA's revenues during the period mentioned. In fact, the series is not strictly comparable given that the number of associates and collaborators, as well as the size of the institution's staff, have all changed over the years.

Based on the above, an additional exercise was carried out. On one side, the trajectory of CEMLA's quotas divided by the number of events held[2] and total employees was considered. On the other, just as in the

[2] In previous decades, some CEMLA events lasted for prolonged periods of up to several

Figure 2

QUOTAS IN REAL TERMS CONSIDERING THE STRUCTURE OF CEMLA EXPENDITURES, NUMBER OF EMPLOYEES AND NUMBER OF EVENTS, 1952-2010



Source: CEMLA.

previous exercise, a deflator based on the weighted price indexes of Mexico and the USA was used to calculate quotas in real terms.

Figure 2 shows the results of this exercise, which indicate that CEMLA's quotas actually declined between 45 to 56 percent in real terms during the 1983-2010 period.

In sum, despite the important achievements obtained since its creation, by the end of 2009 CEMLA faced a situation that even endangered its ability to operate.

months. In order to make the figures comparable it was assumed that each week these courses lasted is equivalent to one event.

3. CEMLA at Present

At the start of 2010, a Strategic Plan was designed in order to determine the main guidelines that would govern the Center's management, organization and activities during the 2011-2013 period, with a view to properly fulfilling its mission.

Besides including a process of analysis and thought for identifying the strengths and weaknesses of CEMLA, the Plan defines its Vision for the following years, as well as the strategic objectives and actions for achieving it.

Taking into account the causes that led to the Center's creation and its trajectory throughout the years, the Plan considers that the Vision should be to:

> Consolidate CEMLA's status as a center of excellence, generating, coordinating and implementing initiatives in knowledge and practical aspects of monetary and financial topics of relevance to the central banks of Latin America and the Caribbean, positioning it as a consultation body of first resort among its members.

This implies the need for the Center to be aware of the changing interests and objectives of member central banks, ensuring it is proactive and has the initiative to meet their demands and requirements in such a way as to contribute to improving their specialized areas and foster cooperation.

With the aim of achieving this Vision, five strategic objectives were set for the 2011-2013 period:

1) Improve the quality of courses, workshops, seminars, meetings and technical assistance provided by CEMLA in line with the aim of attaining standards of excellence in the institution.

2) Strengthen the capacity of CEMLA to respond to the needs of its members in a changing environment.

3) Guarantee that CEMLA has the financial and human resources necessary to fulfill its Mission.

4) Improve the Center's administrative capacity with the aim of making it a modern, effective and efficient institution.

5) Create a new institutional image and communications policy giving the Center greater presence among its members and the general public.

The Plan naturally specifies the actions required to meet these objectives and its progress is reported periodically to the Center's Board of Governors and Assembly. Furthermore, given that it would not be possible to start all the recommended actions at the same time, priorities have been defined, reflected in the short, medium or long-term implementation of such measures. This paper is not intended to provide a detailed explanation of the planned actions. Instead, the following sections explain some of the general lines of action and the results obtained up to now.

Quotas

As already mentioned, budgetary restrictions were among the main difficulties faced by CEMLA toward the end of 2009. In particular, it was clear that the level of revenues of the Center would not allow it to fulfill the objectives set out in the Strategic Plan or even to adequately cover its existing needs. This significantly increased the risk of other institutions occupying the areas that were not properly covered by CEMLA.

One of the possibilities considered for addressing this situation was to look for revenue sources other than quotas. A natural option here was to simply increase the membership of the institution. However, a conclusion was soon reached on this idea: increasing the membership is of importance in itself independent of its effect on CEMLA's revenues, but even under the most optimistic assumptions the relief to financial restrictions that could be obtained in this way would be relatively modest.

Thus, although the actions set out in the Strategic Plan began to be implemented using the resources available, a way of increasing quotas was looked for immediately. In order to more precisely evaluate the resources CEMLA needed, a multiyear budgeting program was carried out for the 2012-2016 period. Preparation of this exercise included, among other objectives, the following:

- Substantially strengthening the Center's program of activities and, thereby, the services it offers to the membership.
- Restarting analysis and research activities by creating a specialized department.
- Contributing more knowledge on topics of importance to central banks through more and improved publications.
- Modernizing technological and physical infrastructures.
- Increasing and improving CEMLA's public presence, through a publication policy and more active participation at different forums, among other measures.
- Improving the institution's human capital by hiring top-quality staff and offering better training opportunities.
- Offering the opportunity for proper professional development to the staff.
- Hiring staff for areas that had become bottlenecks in the fulfillment of CEMLA's duties.
- Increasing certainty regarding the institution's financial viability and the quality of its human resources over the long term.

The results of the exercise led to the conclusion that a quota increase of around 50% was needed. CEMLA's Assembly approved such increase in September 2011.

A one-time only adjustment in CEMLA's quotas sooner or later would obviously lead to a new deterioration of revenues in real terms, with negative effects such as those seen at present. The Assembly therefore agreed to review quota amounts every four years.

In addition to widening the margins of maneuverability required for progressing satisfactorily in the objectives set out in the Strategic Plan, these measures also allowed the membership to send a clear message regarding its commitment to CEMLA.

Program of Events

CEMLA's annual program of events includes four types of activities:

a) Training, mainly through courses, workshops and seminars, the content of which may be determined internally or externally. The latter generally applies to events jointly organized with technical associates.

b) Discussion seminars.

c) Technical meetings of governors or those in charge of the different areas at central banks in the region, with the participation of collaborating central banks and on occasions international organizations. Their aim is mainly the exchange of experiences and dissemination among participants of the latest professional news and best practices.

d) Events linked to technical assistance programs. These are aimed at strengthening certain areas under central bank control through country missions –made up of experts from CEMLA, other central banks of the region, international organizations and external consultants– and organizing national or regional events, among other measures.

The structure of the program of events is mainly determined according to members' needs. These are captured through surveys (annual since 2010), supported by direct requests, discussions with the authorities of member institutions, the exchange of opinions with technical members and evaluations by CEMLA's staff.

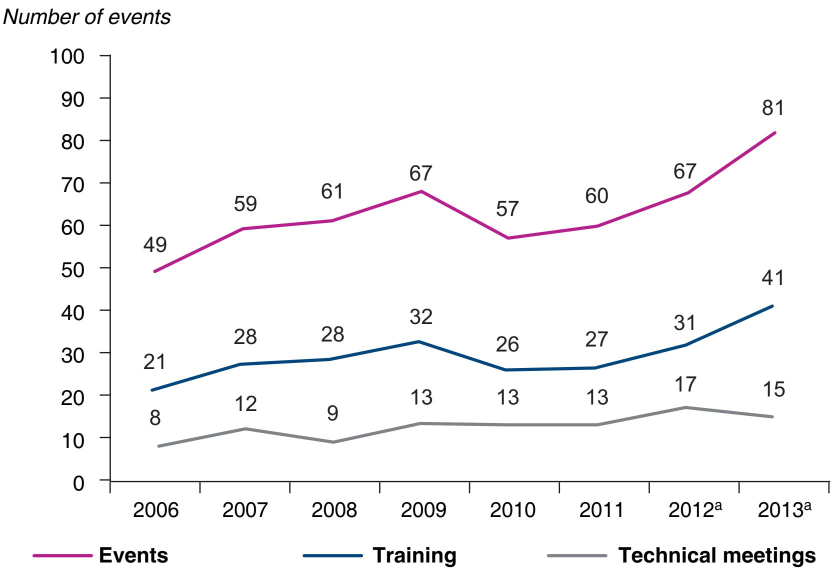
CEMLA's approach is flexible in order to address possible gaps in the program of events. Although the program is approved by the Board of

Governors in September/October of the preceding year, if the available budget allows, CEMLA tries to include any requests members make after such date.

The increase in quotas in 2012 has allowed for a considerable rise in the number of events organized. As can be seen in Figure 3, these shifted from an average of around 60 during the 2006-2011 period to a figure of approximately 67 in 2012 and a programmed 81 in 2013. The increase is mainly explained by the growth of training and, to a lesser extent, an increase in technical meetings. The latter also reflects members' interests that a wider range of experts in different aspects of central banking meet periodically under the framework of events coordinated by CEMLA.

Figure 3

CEMLA: TOTAL EVENTS, TRAINING AND TECHNICAL MEETINGS, 2006-2013



Source: CEMLA.
[a] Projected.

Among the priorities of the Strategic Plan is greater collaboration with technical members for jointly organizing and financing different types of events. This fundamentally obeys the synergies such an approach offers. It allows CEMLA to reduce the costs of its events and, most importantly, leverage the long accumulated experience of prestigious institutions for the benefit of Latin America and the Caribbean. It could be said that in this area CEMLA has experienced a structural change during recent years. For instance, of all the events organized in the 2006-2010 period, 32% were made with technical members (Table 1), while the corresponding figure for 2011-2012 is 47 percent.

Two additional characteristics of CEMLA events should be highlighted. The first refers to their thematic orientation. As would be expected, particularly in the present circumstances, the Center's events place special attention on macroeconomic and financial topics. In fact, of all the events included in the program for 2012, around 34% are focused on such areas (Figure 4). Nonetheless, a very wide range of topics are considered, covering central bank substantive and support topics.

The second is related to the origin of participants in the events organized by the institution. As can be seen in Figure 5, while 34% of those attending CEMLA events originate from countries with a per capita GDP of below USD 10,000 (PPP-adjusted), the contribution of this group to CEMLA quotas is just 9%. The aforementioned is evidence of the spirit of cooperation that exists at the institution.

Research

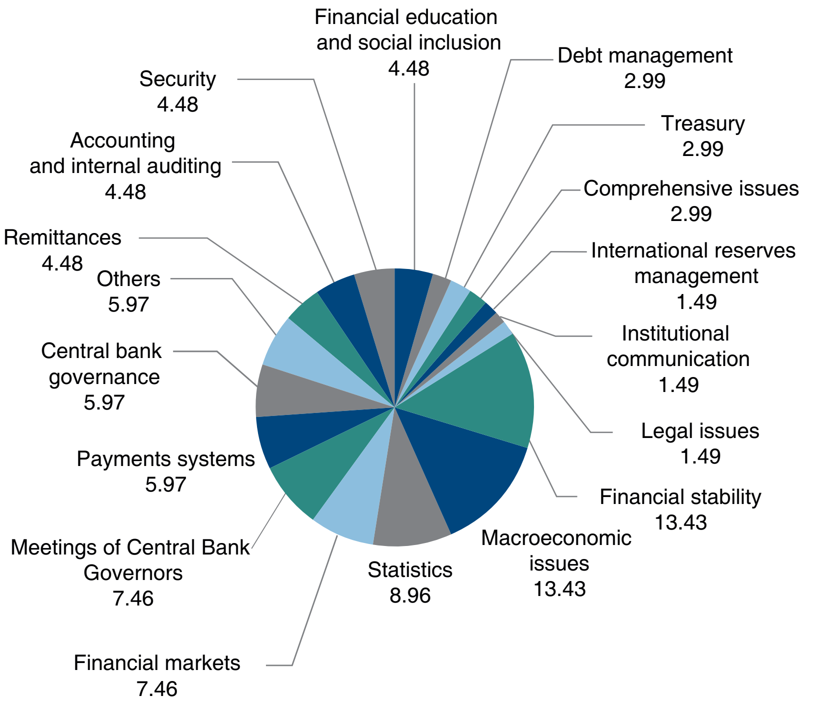
As explained previously, research activities, which had become an important part of CEMLA's tasks, disappeared at the end of the 1990s mainly as a result of budgetary difficulties. In this context, the Center's involvement in research was mostly brought about through indirect mechanisms, and in particular by acting as a promoter of such activities through different channels.

The first of these is the so-called Central Bank Researchers Network, where CEMLA performs the role of Technical Secretariat. Research papers from CEMLA member central banks and some international

Figure 4

CEMLA: THEMATIC DISTRIBUTION OF EVENTS

(percentages)



organizations that have been previously evaluated and selected by a committee are presented annually at this forum. The work of the Network also includes a joint research program where central bank researchers come together to analyze topics of common interest. The papers elaborated in this program are published by CEMLA. The Network's selection mechanisms and organization have been improved over time, fostering a growing participation at its meetings.

A second channel is through the Rodrigo Gómez Award, created in 1970 to honor the memory of a former general director of the Bank of

Table 1

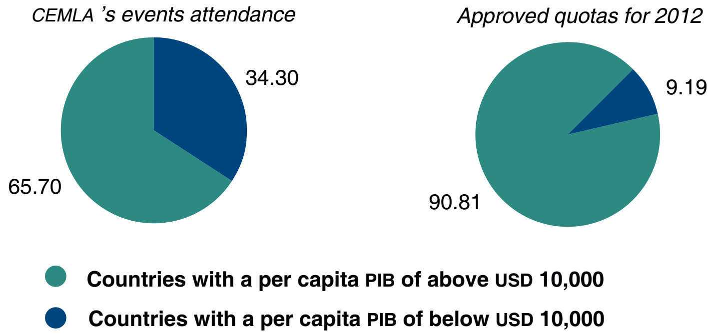
CEMLA: EVENTS WITH TECHNICAL ASSOCIATES, 2006-2012	2006	2007	2008	2009	2010	2011	2012
Member technical associates							
European Central Bank	0	1	0	0	0	0	1
Bank of Spain	3	4	5	5	4	4	3
Bundesbank	2	3	2	2	3	4	4
Federal Reserve System	1	1	2	3	2	1	1
Subtotal	*6*	*9*	*9*	*10*	*9*	*9*	*9*
Technical associate international organizations/central banks							
ALIDE	0	0	0	0	1	0	0
Bank of Spain-ASBA	0	0	0	0	1	2	1
World Bank	3	0	0	0	2	1	3
World Bank, IDB and BIS	0	3	2	1	1	1	1
World Bank-IMF	0	1	0	1	1	0	0
IDB	1	1	1	1	2	2	3
BIS	1	2	1	2	1	4	2
DGRV	1	2	2	1	2	1	1
Federal Reserve-ASBA	1	0	0	0	0	1	0
IMF	0	0	2	0	1	3	4
IMF-ASBA	0	0	0	1	0	0	0
FSI	1	1	1	1	1	2	2
Bank of Japan	0	0	0	0	0	0	1
Bank of England	1	1	2	0	0	0	1
CME	0	0	0	0	0	0	1
CPSS	0	0	0	0	0	1	0
OECD	0	0	0	0	0	1	1
SEACEN	0	0	0	0	0	1	1
Subtotal	*9*	*11*	*11*	*8*	*13*	*20*	*22*

	2006	2007	2008	2009	2010	2011	2012
Total events with technical associates	15	20	20	18	22	29	31
Total events with other central banks and international organizations	1	1	2	1	2	1	1
Grand total	*16*	*21*	*22*	*19*	*24*	*30*	*32*

Figure 5

CEMLA: PARTICIPANTS AND QUOTAS BY LEVEL OF INCOME, 2011

(percentages)



Mexico who was one of the main proponents of the creation of CEMLA. The Award was set up with the aim of encouraging the elaboration of studies of interest to central banks and recognizing research carried out in the region.

The third channel is periodic publications. In particular, since 1978 and 1988, respectively, and up until the end of 2011, CEMLA simultaneously published the journals *Monetaria* and *Money Affairs* that included research papers (the former in Spanish and the latter in English) mainly from economists of Latin American and Caribbean central banks.

All of these activities continued to be carried out during the 2010-2011 period. However, in order to improve them within a context of budgetary restrictions, various efforts were implemented that did not imply outlays of resources for CEMLA. Among such efforts it is important to mention the following:

i) Due to a combination of factors, participation of researchers in the Rodrigo Gómez Award had been low. Since this could be detrimental to the quality of the studies submitted, and in order to encourage the presentation of more and better-quality papers, in October 2010 CEMLA's Board of Governors approved a series of changes regarding dissemination, deadlines for receiving papers, evaluation and presentation of the Award. The results have been positive. As Figure 6 shows, the number of papers submitted increased from an average of 14 in 2003-2010 to 28 in 2011-2012.

ii) In 2011, the Board of Governors approved a program of internships at CEMLA for researchers from interested central banks, lasting for a minimum of one year and financed mainly by the applicant central bank. The research agenda will be defined jointly by CEMLA and participating central banks.

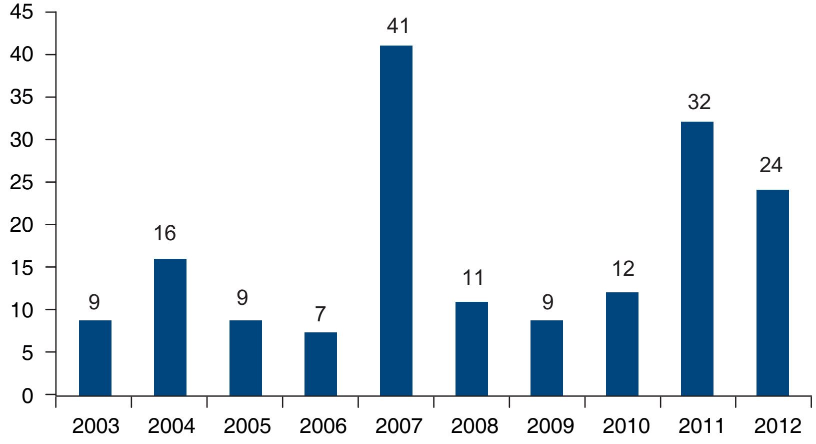
iii) The process for improving CEMLA's academic journals was started in 2010. The most important components are described in the following section.

iv) In order to broaden the area of academic research and cooperation, agreements were signed at the end of 2010 with two Mexican universities. In general terms, these agreements established a collaboration framework for analyzing, researching, discussing and disseminating topics of relevance for central banks. CEMLA has been presenting research papers at the meetings of the Central Bank Researchers Network under the framework of these agreements.

In spite of the relevance of the efforts described above, it was clear that they were not sufficient to enable CEMLA to develop a structured research program. Thus, given the importance the membership gives to research tasks and the resources available from increased quotas, in 2012 CEMLA allocated budgetary resources for creating a research department. The aim is to develop a research agenda to support those carried out at member central banks with a view to leveraging synergies.

Figure 6

CEMLA: PAPERS RECEIVED FOR RODRIGO GÓMEZ AWARD, 2003-2012



Publications

After a diagnosis of the situation of CEMLA's journals, in 2010 the Board of Governors approved a series of measures designed to strengthen them and widen their distribution. Thus, a new Editorial Committee was set up and put into operation, which was made up of heads of research departments from the seven CEMLA member central banks with the highest voting power at the Center[3] and a representative from CEMLA

[3] Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela.

as ex officio members, as well as other central bank researchers and academics as temporary members. An Editorial Board was also created, the members of which are mostly former governors of central banks and renowned academics, to support the Committee as an editorial policy consultation and advisory body.[4] The Board of Governors later also approved the creation of a Technical Committee.

One of the first tasks of these bodies was to define a new editorial policy. The most outstanding aspects of this policy are:

- Introduction of a strict peer-review refereeing procedure.
- Efforts would be initially focused on one journal *(Monetaria),* to be published every six months in Spanish and English.
- In order to encourage research in a wider segment, proposed articles will be accepted in Spanish, English and Portuguese.
- The first issue of the new *Monetaria* with articles by renowned guest economists will be published during the second half of 2012 and the first issue with refereed articles in the first half of 2013.

These actions are expected to position *Monetaria* in a relevant place among international journal rankings and, in the last instance, give an additional boost to research on central bank topics in the region.

Technical Assistance

CEMLA's technical assistance programs are aimed at strengthening areas falling within the mandates of central banks. Based on missions and different types of events, they transfer mostly practical knowledge for improving and modernizing the management, procedures and systems of the area in question. One crucial aspect of these programs is that they are mainly financed by sources external to CEMLA, such as

[4] The members of the Editorial Board are: Andrés Bianchi, Jorge Braga de Macedo, Vittorio Corbo, José de Gregorio, Francisco de Paula Gutiérrez, Jordi Galí, Arnold Harberger, Gustavo Loyola, Miguel Mancera, Enrique G. Mendoza, Guillermo Ortiz Martínez, Jesús Silva-Herzog, Miguel Urrutia, Richard Webb, and Marion Williams.

international organizations or bilateral donors. Each of these programs prepares a group of publications. Such documents might be descriptive reports, glossaries of terms, compilation manuals, regional comparative analysis and statistical series, among others.

CEMLA currently has six technical assistance programs that have been operating for several years.[5] Two of them, supported by the Multilateral Investment Fund of the Inter-American Development Bank, are focused on the area of remittances; another two, financed with resources from the World Bank and the Canadian government, are designed to provide consulting on public debt management; and the two remaining programs, jointly coordinated by CEMLA and the World Bank, are focused on providing support on payments system and credit reporting. As Table 2 shows, these programs have had considerable coverage in the region.

Furthermore, based on the experience developed in the area of debt during the last 10 years, CEMLA concluded negotiations in 2011 with the Swiss Government's State Secretariat for Economic Affairs (SECO) for financing a five-year public debt management program designed entirely by CEMLA officials and that will begin during 2012. The aim of the program is to build public debt management capacities in low and lower middle income countries of the region, taking care to supplement and not duplicate efforts with other international initiatives.

In addition, as part of CEMLA's efforts to promote financial education in Latin America and the Caribbean, a Memorandum of Understanding was reached with the OECD, which includes the joint organization of events on the topic and advisory to CEMLA member institutions for implementing financial education programs, among other actions. The measures contained in this Memorandum began to be applied in 2011,

[5] Program for Improving Central Bank Reporting and Procedures on Remittances, Program for the Application of General Principles in Latin American and Caribbean Remittance Markets, Western Hemisphere Credit and Loan Reporting Initiative, Western Hemisphere Payments and Securities Settlement Forum, Debt Management Facility and Capacity Building Program for Public Debt Management in Latin America and the Caribbean.

Table 2

CEMLA: TECHNICAL ASSISTANCE MISSIONS BY PROGRAM

Missions	*Payments Forum*	*Remittance Measurement Forum*	*Program for the Application of General Principles in Latin American and Caribbean Remittance Markets*
Argentina	•		
Bahamas	•		
Barbados		•	
Belize	•		
Bolivia	•	•	
Brazil	•	•	•
Chile	•		
Colombia	•	•	•
Costa Rica	•		•
Curazao	•		
Dominican Republic	•	•	•
Ecuador	•	•	•
El Salvador	•	•	•
Guatemala	•		•
Haiti		•	•
Honduras	•	•	•
Jamaica	•		
Mexico	•		
Nicaragua		•	•
Organization of Eastern Caribbean States	•	•	•
Panama	•		•
Paraguay	•	•	•
Peru	•	•	•
Surinam		•	
Trinidad and Tobago	•	•	
Uruguay	•		
Venezuela	•		
Total	*23*	*14*	*13*

Credit Reporting Initiative	*Public Debt Program (CIDA and DMF)*	*Public Debt Program (CIDA and DMF)*
•		
•		
•		
•		
•		
•		
•		
	•	
•		
•		
		•
•		
•		
•		
•		
13	*1*	*1*

although formalization of the Memorandums was expected in the second half of 2012.

These efforts have been supported by actions in the bilateral sphere. In particular, at the end of 2011 an agreement was signed with the Bundesbank for jointly organizing seminars and workshops, as well as for the staff of this central bank to provide technical assistance services and for internships at this institution. Negotiation of similar bilateral agreements will continue with other members.

Other Actions

Among other actions implemented to comply with the objectives set out in CEMLA's Strategic Plan it is important to mention the following:

i) Efforts were made to increase the membership. Thus, during 2010 and 2011 the National Swiss Bank, the Central Bank of Sweden, the Corporación Andina de Fomento and the Turks and Caicos Islands Financial Services Commission became collaborating members of the Center.

ii) Closer cooperation links with Asian central banks. In particular, during the VI Meeting of Central Bank Governors of Asia, Latin America and the Caribbean held in Washington in September 2010, it was decided to promote the joint organization of events, to invite central banks of both regions to events organized by CEMLA and SEACEN, to set up communication channels for exchanging information on the activities organized by central banks from both regions, to carry out joint research projects and to introduce internship and technical assistance programs. A web site was recently set up including all the activities in this respect.

iii) In the context of efforts to foster closer relationships with Asian central banks, the first conference of SEACEN and CEMLA member institutions was organized. Due to the success of this meeting, it was agreed to organize it on an annual basis in the future.

iv) A Memorandum of Understanding was signed with the CFA Institute focused on the co-organization of events of interest to CEMLA members, the participation of speakers from the CFA at the Center's events and the exchange of information, among other objectives.

v) In response to concerns expressed by several member central banks, CEMLA has become a forum for disseminating information related to issues discussed at the G20. Thus, the governors of Latin American central banks that are members of this Group regularly present their viewpoints on the main topics of the G20 agenda to their counterparts from other central banks. CEMLA also channels some of the information discussed at this forum to members who are not part of the Group.

vi) A communication strategy has been implemented providing greater familiarity with the institution by publicizing in a timely and efficient manner the products it offers and their content, and generally strengthening CEMLA's image.

Challenges

The most significant challenge CEMLA faces in the short and medium terms is to achieve the Vision laid out in its Strategic Plan for the 2011-2013 period. Obviously, the measures taken in the context of the Plan up until now have constituted an important step in the right direction. Nevertheless, CEMLA is still far from achieving this goal.

In this regard, it is still necessary to consolidate progress made on some of the measures. In several cases the actions taken represent only the first steps in a process that will require time before it yields the expected results. This is the case, for instance, of research tasks, which are only just beginning to take shape. It will also be necessary to start implementing other measures in the Strategic Plan that are still pending.

Furthermore, it is important to continue making efforts to comply more precisely with the Center's mandate. Thus, besides the need to improve the effectiveness and efficiency of the actions being implemented, it is important to be aware that there are areas in CEMLA's statutes that are not being covered. It should also be pointed out that, in order to achieve the latter, it will be essential to have the full support of the membership.

In the long term one could think of more ambitious objectives. Although it does not seem viable to introduce schemes similar to those existing in other emerging regions such as Asia, there is very ample margin for closer monetary cooperation in Latin America and the Caribbean.

For instance, additional channels for bolstering monetary integration and cooperation on a subregional scale should be explored, while more intense dialogue on monetary and financial topics in the region could also be pursued. Although the latter objective is to a large degree achieved through the forums CEMLA coordinates, it would be useful to consider creating a process of peer surveillance and review as a complement to those existing in other forums. This would allow the development of regional analytical capabilities and foster improved performance in the region. Of course, the role CEMLA could perform in efforts to implement actions of this nature should to be studied.

Keynote Address

Agustín Carstens

Central Bank Cooperation at the Beginning of the 21st Century

It is a pleasure to welcome you to Mexico and an honor to share this dinner with you to commemorate CEMLA's 60th anniversary. We are very proud of the fact that the Center for Latin American Monetary Studies is celebrating its 60th anniversary.

We would particularly like to thank Javier Guzmán for the invitation and I congratulate him for having organized this Conference to discuss the importance of central bank cooperation at the start of the 21st century.

Precisely this spirit of collaboration formed the basis for the creation of CEMLA. Today, just as at its beginnings, such a spirit is the factor supporting the institutional bonds among its members, providing cohesion and substance to the joint efforts aimed at confronting similar challenges, while recognizing the differences and peculiarities of each member, which adds richness and variety to cooperation and collaboration.

Governor of Bank of Mexico.

Nowadays, CEMLA's main objective is to promote a better understanding of the core issues of central banking in Latin America and the Caribbean, giving priority to the following:

a) monetary stability,

b) financial stability, and

c) regional and international coordination.

There can be no doubt that the economic environment in Latin America and the Caribbean, and of course around the world, has changed considerably during the last 60 years. To start with, central banks' functions have evolved throughout these six decades. It has been a long institutional development, which emerged from a relatively narrow vision where the key role of central banks was to provide money to economies. Later on, Latin America went through a period when our institutions placed emphasis on credit allocation policies. Finally, with greater institutional independence came the next step toward a modern central bank, where the main priority is the mandate to procure monetary and financial stability. Thanks to this transition, the concurrent periods of economic and financial crises in the region came to an end. It must be acknowledged that major advances have been accomplished in this regard.

However, the fact that we have greater macroeconomic stability in Latin America does not mean that we can lower our guard. On the contrary, we should maintain discipline in our fiscal and monetary policy frameworks and strengthen regional cooperation in order to face external shocks to which we are all exposed.

It is clear that one of the lessons from the recent global crisis was to highlight the close economic and financial ties of the world economy. Thus, the crisis once again exposed the paramount importance of international agreements regarding cooperation among financial and monetary authorities worldwide. And this, as I believe we have already learned, is indispensable both in times of crisis and in those periods of relative calm which we call *normal.*

If we speak of the global crisis, of which we in Latin America are still more or less passive subjects, we cannot avoid the consideration of certain points, which, if analyzed in retrospective, revealed insufficient international monetary cooperation. Likewise, this review allows us to mention some areas that we must attend to as a priority in our region in order to strengthen the framework that has been established to encourage such cooperation.

As you know, the international macroeconomic situation before the crisis was characterized by low interest rates and abundant liquidity in search for yield. Large global imbalances, together with rapid financial innovation, contributed to accelerate the lending boom, particularly in advanced economies.

Despite the warnings from different international forums and economic analysts regarding the risks of global imbalances and the accelerated growth in prices of certain financial assets, no one imagined the magnitude of the problem.

In turn, although the monetary authorities in advanced countries were aware of the risks posed by global imbalances, the necessary corrective actions were not implemented on time. Moreover, there was no sense of urgency, or at least evident concern, among the competent authorities regarding the lending boom or the great expansion of complex financial instruments that in essence escaped conventional regulation and supervision tools.

During the first phase of the current crisis, the authorities responded with caution, addressing specific problems of the financial markets as they arose. In retrospect, the authorities did not manage to react in a timely, forceful and decisive manner given the magnitude of the crisis. There was a lack of a comprehensive vision, a strategic point of view with a global perspective. In particular, one could say that, apart from the swap lines established between the US Federal Reserve and other central banks, in the early stages of the crisis no decisive measures were taken to face it in a coordinated manner at the international level.

It was not until the collapse of Lehman Brothers that the first multilateral measures were implemented. This was the moment when a series of coordinated and multilateral actions were taken in order to tackle the crisis.

For instance, coordinated policy rate cuts were implemented at the beginning of October 2008 by the US Federal Reserve, the European Central Bank, the Bank of England, the Bank of Canada, the Swiss National Bank and Sweden's Central Bank.

Later, US dollar liquidity facilities, which had been established by the US Federal Reserve and other central banks of advanced economies, were expanded in order to include emerging economies (Mexico, Brazil, Korea and Singapore). In Europe, injections of capital into the banking system in various countries were agreed upon, as well as the commitment to jointly confront the crisis.

Regarding fiscal policy, several advanced and emerging countries started to implement countercyclical programs to stimulate the economy and to foster a faster recovery, taking into account that a broad simultaneous stimulus would yield better results relative to unilateral increments in public spending.

Efforts were also made to strengthen the international financial architecture in several international forums, aimed at designing a system which would allow a timely, efficient and coordinated response during global episodes of stress.

These turbulent episodes showed that international coordination in implementing policies is more productive and efficient than unilateral implementation. This thesis is not only widely supported by academic literature but also by recent and even current experience: in times of crisis the benefits of coordinated action are more evident. A multilateral response has positive externalities and the costs of not acting in concert are much higher, and therefore the different parties have sufficient incentives to strengthen their cooperation.

The challenge is thus to design international arrangements which facilitate greater cooperation among our countries. In this sense, the existence of international institutions and forums that contribute to the early identification of risks and signs of instability are of utmost importance.

We should continue to strengthen dialogue in Latin America and the Caribbean. The first point in order to understand the importance of this collaboration is the lack, the great deficiency, of a consistent theoretical framework to analyze the role that the financial sector has in economic activity and its function in the propagation of crises. Despite all the progress made in modelling contagion through trade, as far as financial channels are concerned it seems as if we speak different languages. There is no consistent framework that would provide us with a standard model to set up our discussions. There does not even exist, I need to point out, a common terminology. Unfortunately, it is clear that even today our understanding of the concepts of international liquidity or macroprudential measures can be quite different.

Recognizing these deficiencies, I believe that there is great value added in strengthening research activities at central banks of our region. One way to do this is to support more vigorously the work of CEMLA. Research and dissemination activities are essential for ensuring the Center's relevance. Although training is its fundamental activity, it cannot be sustained without a continuous program of economic research, nurtured by the active participation of central bank members. Something similar happens with technical assistance, which should be a link between the institution and its members.

During the last decades CEMLA played a fundamental role in increasing and facilitating collaboration among central banks in Latin America, and I am sure that this will not change in the following decades. It is precisely the permanence of institutions like CEMLA that helps to maintain and improve our common goals. They are institutional witnesses to our shared work and responsibility. We are able to detect change and the evolution of our goals thanks to the continued presence of our institutions and our will to continue collaborating.

Panel 4

Central Bank Cooperation in Times of Crisis: Lessons from the Recent Experience

Juno Kang

Presentation

First of all, congratulations on the 60th anniversary of CEMLA. I appreciate CEMLA for organizing this wonderful Conference.

The topic of panel 4 is "Central Bank Cooperation in Times of Crises: Lessons from the Recent Experiences." Yesterday, we had good discussion about central bank cooperation. I would like to add a few words about central bank cooperation from the perspective of Korea.

Korea experienced financial crisis in late 1990s, so called Asian financial crisis and recent global financial crisis. In terms of measures to overcome crisis in late 1990s, tools were austerity program of the IMF and accumulation of foreign exchange reserves. In Korea, the Asian financial crisis is commonly referred to as "the IMF crisis." The term reflects bad memories about austerity program imposed by the IMF. It also indicates the fact that the IMF played a major role in resolving the crisis. There was little central bank cooperation at that time. During recent global financial crisis, South Korea benefited greatly from currency swaps between the Bank of Korea and the Federal Reserve, the People's Bank of China and Bank of Japan. Here comes the central

Deputy Governor, Bank of Korea.

bank cooperation. In 2010, East Asian countries' inauguration of Chiang Mai Initiative Multilateralization, that is, a multilateral currency swap arrangement, is a mark of significant progress in terms of central bank cooperation. I do not need to explain the CMIM because Dr. Nishimura already mentioned it and Dr. Yunus, of Bank Negara Malaysia, elaborated it very well yesterday. Those swap arrangements have shortcomings or drawbacks including stigma effects, moral hazard and difficulties in making agreements with many countries.

However, there is no perfect solution. Despite of these shortcomings, cooperation helped and will help cushion the impact of a crisis and limit its propagation in a globalized world. This is why central banks should establish closer networking and cooperation.

For the discussion of central bank cooperation in times of crises, we will be listening to the distinguished speakers, Governor Elizabeth Duke, Board of Governors of the Federal Reserve System; Mr. Benoit Coeure, member of the executive board, European Central Bank; Vice-Governor Pedro Neves, Bank of Portugal; and Deputy Governor Manuel Ramos Francia, Bank of Mexico.

Elizabeth A. Duke

Central Bank Cooperation in Times of Crisis

It is a pleasure to participate in this commemorative conference on the occasion of the 60th anniversary of the Center for Latin American Monetary Studies (CEMLA). Since its establishment in 1952, CEMLA has achieved a great deal on both the policy and research fronts to promote our understanding of monetary and banking issues in Latin America and the Caribbean.

The topic I have been asked to speak about today, "Central Bank Cooperation in Times of Crisis," is very important. As we know, central banks typically work individually to achieve objectives for their domestic economies. In the case of the Federal Reserve, monetary policy is conducted to achieve our statutory objectives of maximum employment and price stability. And, of course, fostering a stable financial system is key to attaining these goals. But the experience of the past few years has illustrated –first with the global financial crisis and more recently

Member of the Board of Governors of the Federal Reserve System. Her remarks today reflect solely her own views and not necessarily those of others in the Federal Reserve System.

with the strains in Europe– that cooperation and coordination among central banks around the world may be necessary at critical junctures to achieve these domestic objectives.

In my remarks today, I will describe the evolution of the Federal Reserve's policies during and after the global recession and show how many of those policies were undertaken in coordination with, or in parallel to, similar actions by other central banks. I will start with the monetary policy responses of the Federal Reserve and other central banks during the financial crisis. I will then discuss the efforts that the Federal Reserve has made, often in cooperation with other central banks and international partners, to help enhance financial stability. Finally, I will focus on the challenges facing Latin American central banks, whose economies and financial systems were affected by the crisis itself, and by the responses of other central banks to the crisis.

Federal Reserve Policies and Coordination with Other Central Banks

Although the financial crisis that emerged in the summer of 2007 initially manifested itself as a sharp deterioration in US mortgage markets, the roots of the problem ran deeper. Indeed, the consequences of a credit boom combined with excessive leverage, mispricing of risk, and deficiencies in risk management became increasingly apparent. And given the international extent of these vulnerabilities and interconnections, the crisis quickly became global. Central banks around the world responded forcefully.

From the outset, the Federal Reserve vigorously used its traditional toolkit for managing short-term interest rates. The Federal Reserve reduced the target federal funds rate from 5.25% in August 2007 to a range of 0 to 0.5 percent by the end of 2008. International coordination on policy rate decisions is rare, but in October 2008, the Federal Reserve announced a reduction in its policy rate jointly with five other major central banks: the Bank of Canada, the Bank of England, the European Central Bank, the Swedish Central Bank, and the Swiss

National Bank. With clear signs of simultaneous economic slowing in many countries, this coordinated action sent a strong positive signal to financial markets about policymakers' collective intent to mitigate the effects of the crisis on their economies. Although not through directly coordinated actions, other central banks, including those in Latin America, were also reducing policy rates.

The stresses in financial markets and liquidity shortages were severe. So, in addition to cutting policy rates, the Federal Reserve took measures designed to provide liquidity first to banks and later to other financial institutions. A third set of measures involved the provision of liquidity to address pressures in commercial paper markets and at money market funds. These liquidity programs were largely unwound when financial markets improved.

As the Federal Reserve and other central banks worked to address liquidity shortages in their own markets, it became clear that, as a result of globalization, firms were experiencing funding shortages not only in domestic currencies, but in foreign currencies as well. In particular, dollar funding shortages appeared not just in the United States but in countries around the world, which, in turn, exacerbated pressures in US funding markets. The Federal Reserve already was providing liquidity to foreign financial firms operating in the United States through its discount window and other facilities. To further address pressures in dollar funding markets and support the flow of credit to US families and businesses, the Federal Reserve ultimately approved bilateral currency swap arrangements with 14 foreign central banks, including two Latin American central banks.[1] Under these swap arrangements, in exchange for their own currencies, foreign central banks obtained dollars from the Federal Reserve to lend to financial institutions in their jurisdictions. These swap arrangements pose essentially no risk to the Federal Reserve: They are unwound (with a fee paid by the central bank drawing on the swap arrangement to the Federal Reserve) at the

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[1] The 14 central banks were those in Australia, Brazil, Canada, Denmark, the euro area, South Korea, Japan, New Zealand, Mexico, Norway, Singapore, Sweden, Switzerland, and the United Kingdom.

exact same exchange rate that applied to the original transaction, they are conducted with major central banks with track records of prudent decisionmaking, and they are secured by the foreign currency provided by those central banks.

The success of these swap lines in alleviating funding pressures and reducing interbank borrowing rates is a testament to the benefits of central bank cooperation. Moreover, in addition to easing funding shortages, these swaps also helped to allay market fears –they had a preventive as well as a curative role. For example, four of the central banks that participated in these arrangements –Brazil, Canada, New Zealand, and Singapore– did not end up drawing on the facilities, but it is generally believed that the existence of the lines helped prevent stresses that could have otherwise developed. As the financial crisis receded, the swap lines were closed in February 2010. However, swap lines with several foreign central banks were reopened in response to financial strains that developed in Europe.[2]

In many countries, policy rates fell to nearly zero. With substantial economic slack remaining, these central banks faced the challenge of finding ways to further ease monetary policy. The Federal Reserve expanded its balance sheet through the purchase of longer-term Treasury securities, agency debt, and agency mortgage-backed securities. The idea was to put downward pressure on longer-term yields to spur demand and also to encourage some portfolio rebalancing toward riskier assets and loans to the private sector. More recently, the Federal Open Market Committee decided to extend the average maturity of its holdings of securities by selling shorter-maturity Treasury securities and buying longer-maturity Treasury securities. This maturity extension program created additional downward pressure on long-term rates without expanding the size of the Federal Reserve's balance sheet.

In addition to using conventional monetary policy and balance sheet tools to provide monetary accommodation, communication is an

[2] These swap lines have been renewed several times since then, with the current authorization running through February 2013.

important tool used by central banks to enhance the effectiveness of policy. At the conclusion of each meeting, the Federal Open Market Committee issues a statement of policy actions taken and the rationale for those actions. Detailed minutes are published three weeks later, and lightly edited transcripts are made public with a five-year lag. In 2011, the Chairman began holding press conferences on a roughly quarterly basis to discuss economic projections submitted by participants and actions taken at the meeting. In August 2011, the Committee statement included forward guidance that economic conditions are likely to warrant exceptionally low levels of the federal funds rate at least through mid-2013 –a date that was later extended to late 2014– which put further downward pressure on longer-term interest rates. In January 2012, the Committee released a statement of its longer-run goals and policy strategy. At that same meeting, the Committee also began including participant projections of the appropriate path of the federal funds rate in the Summary of Economic Projections. The Committee continues to discuss ways in which communication can be used to enhance policy.

While these policy moves of the Federal Reserve were not coordinated with other central banks, other central banks shared these challenges and responded in broadly similar ways to expand their balance sheets. For example, the Bank of England and the Bank of Japan also used large-scale purchases of medium- and long-term government securities to provide stimulus. In addition, several other foreign central banks, including the Bank of Canada and the Bank of Japan, also more actively used forward guidance about the path of policy rates.

Finally, the common challenges and problems of the past few years reinforced the importance of open discussion among the world's central banks. Central bank leaders draw on collective experience through discussion in such diverse international forums as the Bank for International Settlements (BIS), Group of Twenty (G20), and CEMLA. CEMLA is an excellent example of what can be achieved by central bank cooperation through such means as courses and seminars, international meetings, technical assistance, publication of research studies, and exchange programs.

Cooperation in Areas of Supervision and Regulation

Central banks around the globe have focused not just on responding to the crisis, but also on working to minimize the risk of future crises by improving the soundness and stability of the financial sector. Indeed, the global financial crisis has underscored the importance of the financial stability objective of central banks. Given the global nature of financial markets and large financial institutions, coordination and cooperation among central banks and bank supervisors and regulators more generally is crucial in achieving this goal. Let me provide a few examples of such efforts.

First, the crisis highlighted shortcomings in capital and liquidity requirements. Central banks with bank supervisory responsibilities have been heavily involved in designing and promoting international frameworks to address these shortcomings. The Federal Reserve has supported the Basel Committee's adoption of improved capital requirements that include raising risk-weightings for traded assets, improving the quality of loss-absorbing capital through a new minimum common equity ratio standard, creating a capital conservation buffer, and introducing an international leverage ratio requirement. The Federal Reserve has also supported the Basel Committee's work on quantitative liquidity requirements and its work on capital surcharges for banks of global systemic importance.

Another example of international cooperation on the regulatory front is the Financial Stability Board (FSB), which consists of key financial regulators around the world, including the Federal Reserve. The FSB has identified a number of challenges that international cooperation among central banks and financial regulators are helping to address. One such challenge regards over-the-counter (OTC) derivatives. To reduce the systemic risk of OTC derivatives, the G20 leaders have agreed to require that standardized OTC derivatives be cleared through a central counterparty. Another challenge is that of cross-border resolutions, and the FSB has undertaken analytic work on how to improve the resolvability of financial firms that have a substantial international presence. The FSB has also identified and spurred cooperative work on gaps in financial data and on the so-called shadow banking system.

As a bank supervisor, the Federal Reserve has cooperated with foreign bank supervisors (including other central banks) through participation in supervisory colleges, which are multilateral standing working groups of supervisors formed for the purpose of enhancing effective consolidated supervision of an international banking organization. Supervisory colleges enhance the information exchange and cooperation of home and host supervisors to help them develop a better understanding of the risk profile of a banking organization.

Lastly, at the Federal Reserve we have also been working closely with other US agencies in the recently established Financial Stability Oversight Council on the implementation of the financial stability reforms laid out in the Dodd-Frank Act. One key aspect of this act is the focus on a *macroprudential approach* that pays attention to the financial system as a whole, in addition to individual financial institutions and markets. The greater emphasis on macroprudential tools has been widespread. Indeed, the Federal Reserve has participated in analyses of macroprudential tools and policies undertaken with other G20 central banks at the BIS and with bank supervisors on the Basel Committee.

One of the reasons that coordination is required for supervision and regulation is the substantial cross-border operations of many financial firms. The deleveraging of some global financial institutions with a significant presence in Latin America and the potential effect on economic performance serves as a stark reminder of the interlinkages of financial institutions and economies. The deleveraging of these institutions also highlights the need to coordinate across regulators and acts as a catalyst to spur greater action and information sharing.

Latin American Central Banks: Crisis Response and Challenges

Earlier I mentioned how central banks around the world, including those in Latin America, lowered policy rates in response to the global financial crisis. Although the crisis developed in advanced economies, Latin American central banks, such as those in Brazil, Chile, Colombia, and Mexico, cut policy rates in 2009 as their economies were being hit hard through trade and financial linkages with advanced economies as well as through commodity price channels. Their capacity to follow countercyclical policies was in striking contrast to many previous times of stress, when policy rates could not be lowered for fear of frightening off international investors. The fact that these Latin American economies were able to respond by lowering policy rates and also by boosting fiscal support is a testament to the decisive steps taken to strengthen macroeconomic policies and financial systems, including improvements in the monetary frameworks under which their central banks operate.

Many Latin American economies staged quick and strong recoveries from the global recession and subsequently started to raise policy rates to try to ward off overheating pressures. Conversely, many advanced economies, with their prolonged soft recoveries, needed to continue to follow expansionary monetary policies. Accordingly, as was also the case in emerging Asia, the monetary policy stance of several central banks in Latin America, such as Brazil and Chile, diverged from those of advanced economies. The resulting rise in interest rate differentials, on top of the generally stronger growth in Latin America, helped to fuel capital inflows, which, at times, have proved challenging for the policymakers of these economies to manage. Of course, more recently, with intensification of the crisis in Europe, some Latin American countries, most notably Brazil, have again lowered their policy rates in response to concerns about slowing growth.

Even within Latin America, however, the experience of economies has not been uniform. In particular, Mexico, with its stronger ties to the United States, was hit earlier and harder than many other economies in the region. Even though Mexico's recovery in the second half of 2009 was strong, it had less momentum and considerable economic slack remained in the country. As such, the Bank of Mexico did not consider it necessary to raise policy rates during its recovery period, unlike many other Latin American central banks.

These developments underscore an important point –that while central banks may benefit from coordination and cooperation, taking the same policy stance at the same time typically will not be the best choice for all central banks. Accordingly, it is imperative for each central bank to have monetary policy tools to appropriately address domestic objectives independent of the actions of other central banks.

Conclusion

In this age of global financial integration, the Federal Reserve and other central banks often must cooperate to achieve their individual mandates. This need for coordination has been especially true during the recent crisis, when the actions of central banks working together proved very helpful in easing financial strains and boosting confidence. Indeed, closer ties and more-open lines of communication across central banks are some positive outcomes of these difficult times. This spirit of cooperation should continue as our respective central banks work to pursue monetary policies appropriate for our own economies while supporting stable financial systems around the world.

Benoît Cœuré

Short-term Crisis Management and Long-term Vision: How Europe Responds to the Crisis

Thank you very much for inviting me to speak at this session on Central Bank Cooperation in Times of Crises. From the euro area perspective, central bank cooperation has worked very well during the crisis. We have had continuous dialogue since the early stages of the crisis in 2007, which continues to the present day. Our network of currency swap lines with the Federal Reserve, the Bank of England, the Swiss National Bank, the Bank of Japan and Bank of Canada have helped ensure foreign liquidity for the euro area and euro liquidity abroad. There has also been successful international cooperation through the IMF. Overall, these measures have played an important role in easing strains in financial markets.

As the success of this cooperation is broadly recognized, I would like to use my intervention today to discuss a different and more contested issue: the management of the crisis by the euro area authorities.

Member of the Executive Board of the European Central Bank. I wish to thank Jonathan Yiangou for his contribution to this speech. I remain solely responsible for the opinions contained herein.

When I travel outside of Europe, I am often struck by the level of misunderstanding of the euro area's approach. The euro area is widely perceived as lacking a coherent strategy to calm markets and stabilize economic activity. It is also seen as the prime source of shocks affecting the global economy. Indeed, I sometimes have the impression that global volatility is solely attributed to the shortcomings of Europe, and that challenges to the sustainability of growth in other large economic regions are conveniently downplayed.

At present, three critical views are particularly prevalent.

- The first is that Europe does not have the right tools to fix the crisis.
- The second is that Europe focuses only on fiscal consolidation and not on growth.
- The third is that the euro cannot overcome its design flaws.

While I acknowledge the reasoning behind these views, you will not be surprised to learn that I fundamentally disagree with them. In all three areas the reality is more complex. Looking only at the outcomes of the European Council and Euro Summit on June 28-29, these critiques do not hold up. Europe is making more progress than many external observers acknowledge.

1. Instruments of Crisis Management

Let me begin with the first criticism: that Europe lacks appropriate instruments to deal with the crisis. To start with, one needs an appropriate sense of perspective. It is unrealistic to expect the euro area to have the reaction-function of a nation-state like the USA. The USA has spent more than 200 years establishing institutions to run a vast and diverse economic area and to manage crises. Even then, its political system sometimes struggles to take difficult decisions. The euro area, on the other hand, has existed for just 13 years. The strengthening of its institutions began only two years ago. Against that background, what has been achieved through the creation of the European Financial Stability

Facility (EFSM) and European Stability Mechanism (ESM), the entry into force of the *Six-pack* legislation and the agreement on the Fiscal Compact, is already very significant.

On 29 June, the Euro Summit took a further series of steps to strengthen crisis management. They agreed that loans to Spain as part of its bank recapitalization program would not have a senior status, removing a key concern for investors about the program and their continued purchases of Spanish government debt. They committed themselves to use the full range of EFSF and ESM instruments in a flexible and efficient manner. And most importantly, they decided that the ESM should have the ability to recapitalize banks directly, once a single supervisory mechanism is in place involving the ECB. These are all very significant developments. Let me elaborate.

First, the possibility for direct bank recapitalization by the ESM is crucial to break the vicious circle between banks and their sovereigns that is at the heart of the crisis. It would allow for banks to be stabilized without increasing the debt level of the sovereign, thereby avoiding further damage to sovereign debt markets and banks' balance sheets. This would move the euro area closer to the type of financial union we see in federations like the USA or Switzerland, where banking sector problems are dealt with at the federal level and have no implications on the finances of the federated units. Of course, this must be accompanied by appropriate incentives for banks to limit moral hazard. Policy conditionality should include restructuring plans in line with European Union state-aid rules, and principles for orderly resolution of non-viable institutions and for limiting the use of public money.

Second, the commitment to establish a single supervisor is critical insofar as it facilitates direct recapitalization. But it also has positive effects in its own right. Given appropriate powers, a single supervisor would produce greater transparency in national banking sectors and reduce regulatory capture, thereby increasing investor confidence. In addition, it would support financial integration by *Europeanizing* supervisory priorities. For example, some supervisory actions we have seen during the crisis that have caused the single market to fragment, like requiring banks to match domestic assets and liabilities, would no longer be anticipated. In terms of design, this supervisory mechanism should have a clear euro area dimension, while remaining fully compatible with the single market and European Union-wide supervisory harmonization. The ECB stands ready to play a role, provided that there is no contamination between monetary policy and financial stability. Of course, extending the remit of the ECB should come with higher standards of democratic accountability.

Third, the decisions to waive seniority and make full use of the EFSF and ESM instruments send an important signal to markets. That signal is: policymakers have understood the complexity of the crisis and are prepared to exploit the flexibility of the rescue funds to address it. This is also evident in the decision by the Euro Summit to allow EFSF or ESM assistance for countries respecting their fiscal and structural reform programs, reducing the stigma of requesting support. The ECB will play its part too by acting as agent for the EFSF and ESM to facilitate effective market operations.

Overall, it is difficult to uphold the caricature that Europe does not have the tools to handle the crisis. If anyone had known, in 2010, that within two years there would be a firewall of 700 billion euro usable for loans to sovereigns, bond purchases and bank recapitalization, the euro area would have been called ahead-of-the-curve. Now that this exists, it is criticized for being insufficient. This is simply the nature of evolving expectations. But it should not distract us from the steps that have been taken. They are impressive both in historical comparison and in their own right.

2. Fiscal Consolidation and Growth

The second current criticism of the euro area is that its focus on fiscal consolidation is destroying growth prospects. The argument goes that in a weak economy experiencing private sector deleveraging, an active public sector is essential to maintain demand. Budget cuts will only lead to lower growth, higher unemployment and larger deficits.

I see no contradiction between fiscal consolidation and sustainable growth. In fact, the one is a pre-condition for the other. I do not deny that there are negative demand effects in the short-term. But for the longer-term, sound fiscal policies are essential to lower borrowing costs and encourage investment. Moreover, in those countries experiencing severe sovereign debt tensions, fiscal consolidation is unavoidable to maintain market access.

That said, there is clearly a need to take measures to strengthen the growth potential of the euro area's economies. These measures also need to have effect in the short-term so as to soften the short-term impact of fiscal consolidation. Recognizing this, the European Council on June 28-29, agreed on a Compact for Growth and Jobs. This Compact aims to free up to 120 billion euro for growth and investment, representing roughly 1% of euro area GDP. This comprises a 60 billion euro increase in the lending capacity of the European Investment Bank; 55 billion through the reallocation of structural funds to growth-enhancing measures; and 4.5 billion of investment financing through a *project bond* pilot phase.

On top of that, the European Council took a number of measures to improve the functioning of the single market and facilitate adjustment within monetary union. The single market in services will be completed, which is expected to yield economic gains of up to 330 billion euro. To improve labor mobility within Europe, an European Union-wide recruitment tool will be developed and measures taken to strengthen the portability of pension rights and the recognition of professional qualifications.

This strategy confirms an important evolution in the thinking of European policymakers. They are acknowledging that the smooth operation of the single currency requires flexible markets for goods, services, and labor. They are aiming to maximize the gains of the world's largest single market, rather than acting as 27 national markets. And they are exploiting European Union funds as a tool to support aggregate European Union growth, rather than for *quid pro quos* between member states. Reaping the full gains from economic integration in Europe, combined with structural reforms at the national level, will help lay the foundations for more sustained growth going forward.

3. Future of Economic and Monetary Union

Some observers, of course, question whether such a forward-looking perspective is relevant. This is due to the third criticism I outlined: the belief that economic and monetary union (EMU) cannot work due to institutional flaws. In the view of these critics, the euro area is too decentralized, too diverse and too disunited to function as a single currency area. They conclude that its survival cannot be guaranteed.

Clearly, there is an institutional gap in the euro area. In the aggregate, the euro area enjoys better fundamentals than the USA or Japan, and yet it is viewed as a much more risky place to invest. For instance, the IMF projects the aggregate euro area deficit for this year to be just over 3% of GDP, compared with around 8% in the USA and almost 10% in Japan. The equivalent figures for gross debt are around 90% of GDP in the euro area, compared with 106% in the USA and 235% in Japan.

The right response to this discrepancy between fundamentals and perceptions is not defeatism. It is to fix the institutional flaws that facilitate it. Again, the European Council took an important step in this direction at the recent summit. Building on the report presented by the Presidents of the European Council, Commission, Eurogroup and European Central Bank, it called for a specific and time-bound roadmap for the achievement of a genuine Economic and Monetary Union. This roadmap will be presented by the end of 2012.

This is a very important development, for two reasons. First, it sends a clear signal of member states' commitment to the euro and to making EMU work. This should help remove investor concerns about the future integrity of the euro area. Second, the report presented by the Four Presidents is far-reaching and comprehensive –it has been designed to address the key challenges facing EMU in all relevant policy areas. It therefore proposes work on four parallel tracks:

1) The first is a *financial union,* with a single framework for supervising and resolving banks and for insuring customer deposits. This would build on the single supervisory mechanism now under development and ideally lead to a European version of the US Federal Deposit Insurance Corporation, financed by contributions from the private sector.

2) The second building block is a *fiscal union,* with powers at the euro area level to prevent unsustainable fiscal policies and to limit national debt issuance. With these powers in place, a path toward common debt issuance would also be possible, but only at the end of the process.

3) The third building block is an *economic union,* which would help euro area members to remain fit and to adjust flexibly within monetary union. This could entail, for example, moving from soft coordination of structural reforms in member states to an enforceable framework at the euro area level.

4) And the fourth building block is a *political union,* which aims at strengthening democratic participation. This final building block is equally important, as the other measures cannot be effective unless they are legitimate. This requires innovative thinking as regards the involvement of the European Parliament and national parliaments in decision-making on euro area issues.

4. Conclusion

The roadmap toward a stronger EMU, seen together with the decisions on the ESM and the Compact for Growth and Jobs, represents a comprehensive response to the crisis. The euro area has clearly understood that the time of partial solutions and piecemeal reform is over.

In implementing this response, there are sure to be difficulties along the way. This is the reality of operating in a union of 17 democracies. But I would caution those who have doubts about the euro, that they underestimate the political commitment to it at their own risk. The euro area is moving toward a more sustainable equilibrium, and comparably fast in international comparison. The ambition to provide long-term foundations for EMU in less than a decade is a historical step of great significance. It is faithful to the objective laid down by the European Treaties to create an "ever closer union among the peoples of Europe." The alternative would be the continuation of the current trend of market fragmentation, leading to protectionism and ultimately to populism.

Some of the proposals will imply a greater sharing of sovereignty among member states. This is unavoidable to guarantee sufficient economic and financial convergence for EMU to function effectively. But it must be ensured that if sovereignty is elevated to the European Union level, so is democratic control, and that steps are taken toward the emergence of a true European identity.

As central bankers, we all have an interest in global stability. I am confident that, with the measures I have described, the euro area will remain a cornerstone of the international economy.

Pedro Duarte Neves

Central Bank Cooperation in Times of Crisis: Lessons from Recent Experience

It is a pleasure and an honor to participate in this Conference on the occasion of CEMLA's 60th anniversary.

The Conference is taking place at a most challenging time.

For five years now we have been passing through what is already regarded as the biggest economic and financial crisis since the Great Depression. The crisis started off in the United States and soon migrated to Europe, evolving from a financial institutions' crisis to a global recession and a fully-fledged euro area sovereign debt crisis.

Repercussions of the crisis in the world economy, international trade and the financial system are still being felt, and its full effects remain unclear.

What is crystal clear, though, is that the world has changed. This change has wide and far-reaching consequences, not least for the

Vice-governor, Bank of Portugal. *Contributions to this paper from the Governor's Office, Market Operations and Reserve Management, Prudential Supervision and International Relations Departments are greatly acknowledged.*

operation of financial markets and the community of central banks.

This brings me to the theme of the Conference, and to the subject of this panel: What lessons can we draw –at this point– for central bank cooperation?

I will try to contribute to this debate by exploring three sets of questions in my presentation.

First, what is central bank cooperation about, and what were the main cooperation arrangements in place before 2007?

Second, how did existing arrangements actually work in practice? Were they sufficient, or did we need to create new cooperation mechanisms?

And finally, what are the implications of the crisis for future central bank cooperation?

What Is Central Bank Cooperation About?

Let me start with the first set of questions: What is central bank cooperation about, and what were the main cooperation arrangements in place before 2007?

In very general terms, one may define cooperation as the process whereby different actors work together for a common purpose. In the case of central banks, the ultimate *common purpose* of cooperation can only be to safeguard monetary and financial stability. After all, these are the primary objectives of any central bank around the world nowadays.

Theory teaches us that, in an interdependent world, cooperative solutions can lead to superior outcomes. This means that cooperation is about internalizing cross-border externalities of national policies. It is only natural then that central bank cooperation has been gaining importance in the past century, alongside the upward trend in economic and financial integration.

Central bank cooperation takes many different forms, and it may be looked at from different angles. If we consider the *number of players* involved, we have bilateral or multilateral cooperation. If we consider the *geographical dimension*, we have global cooperation and we have regional groupings, such as CEMLA. If we consider *economic criteria*, we have groupings of major advanced economies, such as the G7 or the G10, and we have groupings, such as the G20, which also include the most important emerging market economies. If we take an *institutional perspective*, we should distinguish between cooperation in the context of international financial institutions and cooperation within informal groupings. Among the international financial institutions, the Bank for International Settlements naturally stands out. The BIS was created in 1930, and its first objective, as defined in its statutes, is "to promote the cooperation of central banks". Since then, membership has expanded by a factor of ten, from six to 60 central banks.

Finally, we may consider different forms of cooperation according to the *degree of delegation of national powers* involved. Here, I tend to consider three broad categories of central bank cooperation, from the least to the more demanding in terms of delegation:

- First, information sharing, standardization of concepts and exchange of views on the functioning of the economy, the objectives of central bank policy or the economic outlook. This type of cooperation is crucial for having timelier, more comprehensive and better quality statistics, and it brings valuable insights to each central bank's policy debate.

- A second type of cooperation is standard setting and the adoption of common rules, and it involves cooperating also with authorities other than central banks. The most prominent example relates to cooperation in the field of banking supervision.

- The third, clearly the most demanding type of cooperation, is commonly agreed actions. I'm thinking of agreements on gold sales, concerted foreign exchange interventions, mutual financial support mechanisms, or even movements in policy rates. The creation of the euro and the full coordination of monetary policy within the Eurosystem is of course an extreme form of this type of cooperation.

Having attempted to provide a taxonomy of *central bank cooperation*, I will now focus on how these multiple forms of cooperation actually worked during the current financial crisis.

How Has It Worked during the Crisis?

During the current crisis, international cooperation among central banks has been remarkable. We have seen enhanced information sharing and collective monitoring of market developments; coordinated steps to provide liquidity and restore confidence; and joint action with financial regulators and supervisors to reform the financial system.

The crisis damaged the functioning of all financial markets, including the wholesale deposit and foreign exchange markets, forcing many banks to use the lending facilities of their home central banks to finance themselves.

As perceived counterparty credit risk increased sharply, owing to uncertainty about banks' credit exposures and the size of potential losses, banks started hoarding liquidity. US banks, in particular, withdrew liquidity on a massive scale from their affiliates in other countries. The situation became much more acute after the failure of Lehman Brothers in September 2008, which destroyed the widespread belief that governments would not allow any systemically important financial institution to fail.

On their own, central banks have reacted in rather similar ways to the credit crisis: they cut policy rates, lengthened the maturities of their lending operations, extended accepted collateral and implemented so-called *unconventional monetary policy measures*, which essentially amount to direct interventions in certain securities markets. This similar reaction is not surprising given that central banks have faced a common shock, and their policy frameworks are not that different.

What is perhaps more surprising is the unprecedented extent of concerted actions, both at global level and within the Eurosystem.

I would place these concerted actions by central banks on two levels: emergency measures to prevent a credit crunch and structural measures to improve the resilience of the financial system.

I will deal with each of these two sets of measures in turn.

Emergency Responses to the Crisis

Central banks have taken concerted action to provide liquidity to the markets and to influence the level of interest rates and exchange rates. Actions were taken both at global and at regional level. The regional dimension has been particularly relevant in Europe.

Central Bank Cooperation at Global Level

At global level, central banks responded to the sudden drying-up of liquidity in international financial markets by opening up *inter-central-bank swap facilities*, which have then evolved to form interconnected swap networks. Four main overlapping swap networks were established: the Federal Reserve network, the ECB network, the Swiss franc network and the Asian and Latin American network.

Whereas prior to the financial turmoil, central banks' swap agreements had primarily been used as tools of foreign exchange policy, during the crisis the swap lines were used to address elevated pressures in global short-term funding markets and to maintain overall financial market stability. This was a major innovation in central bank cooperation during the financial crisis.

Central bank cooperation at global level was not limited to swap lines –it also involved *coordinated monetary and foreign exchange policy actions*.

A symbolic episode occurred on October 8, 2008, when the European Central Bank and five other major central banks –the Federal Reserve, the Bank of Canada, the Bank of England, the Central Bank of Sweden and the Swiss National Bank– announced a coordinated interest rate cut. This unprecedented coordinated monetary policy decision was a sign of the international central banking community's strong commitment to addressing the macroeconomic implications of the financial market turmoil.

More recently, the concerted G7 intervention, on March 18, 2011, following the request of the Bank of Japan to intervene in the yen, provides another example of worldwide cooperation (even if coordinated intervention is a standard instrument to regulate foreign exchange markets –not a new instrument developed in the context of the current crisis).

Regional Central Bank Cooperation –The Eurosystem

Let me now turn to the regional dimension of central bank cooperation in the current crisis, and in particular to cooperation within the Eurosystem.

A prominent feature of the crisis has been the negative feedback loops between sovereigns and the banking sector. These negative feedback loops have been particularly acute in the case of the European Monetary Union, where monetary financing of the public sector is prohibited, and where the stability of the financial sector depends on the capacity of the local sovereign to rescue the local financial institutions.

In this context, the funding of euro area banks was severely affected, impairing the transmission of monetary policy and leading to unsustainable cross-country differences in credit conditions.

The need to restore the functioning of the monetary policy transmission mechanism in the euro area forced the ECB to intervene in securities markets (both for bank and sovereign funding) and to temporarily accept non-euro denominated collateral in its monetary policy operations. The functioning of the Eurosystem Emergency Liquidity Assistance framework was also put to test.

Interventions in Securities Markets for Bank and Sovereign Funding

The so-called Covered Bond Purchase Programmes and Securities Market Programme were developed as crisis-management mechanisms. Both instruments are coordinated by the ECB and implemented in a decentralized way by the Eurosystem (i. e., by the ECB and the national central banks of the euro area countries).

As euro area banks faced increasing difficulties to issue covered bonds (one of their most important source of financing), the ECB decided that the Eurosystem would be present both in the primary and secondary market of covered bonds, with the aim of restoring confidence and liquidity.

The first Covered Bond Purchase Programme took place from July 2009 to June 2010, with a target amount of 60 billion euros. The intervention was coordinated by the ECB, but the purchases and contacts with market participants were conducted by all the Eurosystem. The program allowed some of the issuers from more strained countries to access this market for funding.

A second covered bond purchase program, with a target volume amount of 40 billion euros, was announced in November 2011, and is to be completed by October 2012. However, the new program failed to revitalize the markets for the weaker jurisdictions. This was probably due to both demand and supply-side factors: on the one hand, investors' lack of confidence had become more acute; on the other hand, banks were able to obtain financing at more attractive conditions by resorting to the three-year long-term refinancing operations launched by the ECB.

In addition to the two covered bond purchase programs, the ECB also announced a program to target the secondary market for sovereign issuers in distress, the so-called Securities Market Programme (SMP). The SMP was launched in early May 2010, as the situation in Greece deteriorated rapidly. The Programme's nominal amount currently stands at 210.5 billion euros, and it comprises several jurisdictions. Interventions are coordinated by the ECB and purchases are conducted by all the Eurosystem.

Acceptance of Non-euro Denominated Collateral in Contingency Situations

In October 2008, in order to enhance the provision of liquidity euro area banks, the ECB decided to temporarily extend the list of eligible collateral for Eurosystem credit operations to non-euro denominated assets. Specifically, marketable debt instruments denominated in USD, GBP or JPY were added to the Eurosystem list of collateral provided that: *i)* those assets were issued and held/settled in the euro area; and *ii)* the issuer was established in the European Economic Area. This Decision was applied until December 31, 2009.

Building upon this experience, the Eurosystem worked with other central banks in order to accept non-euro-denominated collateral in contingency situations, under the so-called Emergency Foreign Collateral framework. This means that, in certain circumstances, the ECB may decide to accept as eligible collateral some marketable debt instruments issued by non-euro area G10 central governments in their domestic currencies (i. e., USD, GBP, SEK, CHF, JPY and CAD).

Emergency Liquidity Assistance

The crisis has put the functioning of the framework for Emergency Lending Assistance (ELA) in the euro area to the test. ELAs had to be provided on several occasions to euro area banks, including to banking groups located in more than one member state and to branches/subsidiaries of banking groups whose head offices are located in other euro area member states.

The framework for the provision of ELAs within the Eurosystem has proved to be very resilient, and no major changes to the framework were required to cope with the effects of the crisis. The only change made to the ELA Agreement worth mentioning is the possibility for an euro area national central bank to enter into a liquidity arrangement with a non-Eurosystem central bank, with the purpose of facilitating the provision of emergency euro or foreign currency liquidity to financial institutions operating within or outside the euro area.

Actions to Increase the Resilience of the Financial System

In parallel to the adoption of emergency measures, central banks, together with other authorities, have been working together to improve global governance and the resilience of the world economy and the financial system.

In this context, the G20 has become an increasingly relevant forum for international economic cooperation, providing strategic global traction.

The Financial Stability Board (FSB) was established in 2009, bringing together national authorities, standard-setting bodies and international financial institutions. The FSB has an important role in shaping new standards for promoting strong regulatory and supervisory policies and financial stability. The creation of the FSB Consultative Regional Groups has brought a wider reach, with members engaged in pursuing financial stability, openness and transparency in the financial sector, the implementation of international financial standards and supporting FSB initiatives, including evaluation processes relating to co-operation and information exchange standards.

Collaborative efforts between the IMF and the FSB in this context are currently underway, including a joint early warning exercise for identifying risks to the global economy.

Also, as part of the broader discussion regarding improvement of global governance and the strengthening of global safety nets, the IMF has enhanced the analysis of the spillover effects of national policies and it has overhauled its lending framework. In this context, IMF resources have been increased through various means, including quota increases, bilateral loans, the so-called New Arrangements to Borrow and a new SDR allocation.

Within the European Union, the growing interdependence between financial systems requires even closer cooperation and coordination, not only between supervisors but also between supervisors and central banks, with cooperation evolving from a prominent bilateral basis to a more multilateral and structured basis.

The vulnerabilities revealed by the international financial crisis – which has taken on different forms since its beginning five years ago– led to the launching of important reforms in the European Union, covering both the regulatory and the institutional frameworks, aiming at, inter alia:

- Strengthening crisis prevention, with the establishment of appropriate measures and arrangements for identifying, monitoring and addressing macroprudential risks.

- Strengthening coordination between relevant authorities with responsibilities for financial stability and alignment of incentives in this field.
- Establishing an effective European Union network of supervisory authorities.
- Tackling the risk of financial market fragmentation.
- Strengthening the credibility of the European model for the preservation of financial stability.

The establishment in 2011 of a new European Union institutional framework for financial supervision is an important development for improving coordination and decision-making at the European Union level on issues relevant to financial stability. The European Systemic Risk Board was entrusted with macroprudential supervision, whereas the three European Supervisory Authorities (for banking, insurance and securities markets) have responsibilities for microprudential supervision.

The European Systemic Risk Board –which brings together central banks and supervisors, with a leading role for central banks– is responsible for monitoring systemic financial risk in the European Union and for developing the macroprudential toolkit, also playing a key role in establishing an effective macroprudential framework in all member states. Warnings and recommendations on systemic risk buildup and on mitigating measures are key instruments of this new body, coupled with the responsibility for monitoring the implementation of recommendations by the concerned addressees.

With regard to microprudential supervision of the banking sector, the European Banking Authority –whose Board of Supervisors is composed of the heads of the national banking supervisory authorities– is responsible for developing technical standards which apply uniformly in all member states (i.e., applying a *single rule book* across the European Union), the convergence of supervisory practices and coordination between national authorities, including in crisis management situations, playing an important role in ensuring consistency in the functioning of colleges of supervisors established in relation to the banking groups operating cross-border.

The carrying out of coordinated stress-tests at European Union level and the recapitalization exercise of the banking sector launched at the end of last year –under which the main banks have to comply with a Core Tier 1 ratio of 9% June 30, 2012, plus a capital buffer for unrealized losses in sovereign debt reflecting market prices (as of September 30, 2011)– are examples of the strong coordination role that European Banking Authority is playing.

What Are the Implications of the Crisis for Future Central Bank Cooperation?

Central bank cooperation is being reshaped, spurred on by the global financial crisis. Also, the crisis has blurred the distinction between monetary and financial stability, and this has increased the demand for cooperation between central banks and other financial sector authorities.

The crisis will have lasting effects both on policies related to international liquidity and on financial regulation and supervision.

Central banks and supervisors will want to ensure that there is less liquidity risk in the banking systems, and they will want to have more and better insurance against foreign currency liquidity risk. In this context, one possible development would be for the swap lines created during the crisis to become a permanent feature of central bank cooperation.

Of course, this is easier said than done. Swap lines pose important risks to central banks' balance sheets and raise difficult moral hazard issues. So, in practice, we may manage to agree on standard swap agreements to ensure that new swap lines can be established quickly and safely, but it might be difficult to go beyond this.

Central banks and financial regulators and supervisors will also henceforth incorporate systemic risk into their analysis and policy actions.

While, as we have seen, many important steps have been taken in this direction, a lot remains to be done.

For example, at global level, the cross-border aspects of crisis prevention and crisis management need greater attention. In particular, how a large, complex and globally active financial firm might be wound down, while keeping its vital functions intact, is far from clear.

Within the euro area, delinking the sovereign and the banking sector is necessary to break the negative feedback loops that are at the heart of the current crisis. For this, we need to complement the monetary union with a banking union. I would see this banking union as comprising four key elements:

- First, an integrated supervision framework based on centralized decision-making and decentralized implementation (along the lines we already have for monetary policy).
- Second, a euro area deposit guarantee scheme covering all euro area banks. This is crucial to ensure a level playing field and avoid further sources of instability within the euro area.
- Third, a euro area bank resolution fund covering those institutions subject to centralized supervision.
- Fourth, a capitalization mechanism, or backstop facility.

Concluding Remarks

Let me conclude.

These are undoubtedly challenging times for us all.

The crisis has shown the need for enhanced international cooperation, better governance, strengthened market supervision and increased transparency. This is relevant not only for governments, but also for central banks and supervisors.

Central bank cooperation has proved valuable, both for putting in place emergency measures to avoid a credit crunch and for developing a more robust framework for the operation of the global financial system.

Going forward, cooperation will also be crucial for designing and implementing adequate exit strategies from the current very accommodative stance of monetary policy and leveraged central banks' balance sheets.

So, I believe it is only appropriate for me to close these initial remarks with a quote from the de Larosière report which concerns us all: "[…]The world's monetary authorities and its regulatory and supervisory financial authorities can and must do much better in the future to reduce the chances of events like these happening again."

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Manuel Ramos-Francia and Santiago García-Verdú

Cooperation among Central Banks during Crises: Lessons from the Recent Experience

Introduction

Unquestionably, cooperation among central banks has recently regained new prominence. Nevertheless, it is worth recalling that it has had its ebbs and flows, from the panic of 1890, to the set of mechanisms implemented by a group of central banks during the recent

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financial crisis.[1, 2] Such cooperation presents significant hurdles, in essence, since there is no supranational authority that could coordinate and enforce a joint policy response by central banks during a crisis. Indeed, there is no global central bank, nor we think should there be.

Against this backdrop, the aim of this paper is three-fold. First, it provides a description of the limits to cooperation among central banks. This focuses on the type of settings in which central banks interact with each other. For this, we can make good use of non-cooperative repeated games theory (NCGRT) to obtain some relevant insights.[3]

Second, it emphasizes the significance of central banks' cooperation in crucial areas. Specifically, it underscores the importance of liquidity provision in periods of financial stress in international markets. This has been an area where we believe hitherto the greatest benefits from cooperation have been obtained. We show that what is being observed is in line with the theory, which is in some sense a reassuring result.

Third, it highlights two areas in which cooperation has taken place with varying degrees of success, to be precise, macroeconomic policy and financial regulation.

Accordingly, the rest of the paper is divided into four sections. The first corresponds to the limits to cooperation. The second explains some areas in which cooperation among central banks has been most successful, for instance, the provision of liquidity in times of financial stress. The third section considers cooperation in areas where the record has been mixed, such as macroeconomic policy and financial regulation. The fourth section offers some final remarks.

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1 The *panic of 1890* or the *Baring's crisis* was one of the most famous financial crises of the 19th century. In this crisis, the Bank of France lent gold to the Bank of England as the former was putting together a rescue package to aid the House of Baring. This investment bank was in trouble at the time because it was a debt issuer to Argentina, who was in economic and financial difficulties. This event left a precedent in central bank cooperation.

2 For a historical perspective on central bank cooperation see, for example, Flandreau (1997).

3 A convenient example of a non-cooperative repeated game is a repeated prisoners' dilemma.

1. Cooperation's Limits

Prior to the crisis, the general perception was that if each country maintained an adequate and orderly set of economic policies, then the rest of the world economy would take care of itself. In particular, it was perceived that if one country made a policy mistake, the consequences would be essentially bounded within the country in question. At most, only a continuous exchange of information was really needed in order to maintain economic and financial stability. This concept was called *the house-in-order doctrine* by Padoa-Schioppa (2005).[4] Indisputably, the recent global financial crisis was a harsh reminder that this perception is quite inadequate.

Thus, the general belief was that central bank cooperation was not an issue of first order importance. Consequently, there was no genuine joint effort to discuss and agree on potential arrangements in order to take cooperation to a higher level. Once again, the crisis showed that this was wrong. On the contrary, in some cases cooperation can be of first order importance.

Nonetheless, it is essential to recognize that cooperation among central banks has specific limits. In particular, there is no supranational authority to coordinate monetary policies. More specifically, there is no *global lender of last resort* or, more generally, no *global central bank*, not that we think there should be. Yet, in order to gain a deeper understanding of the settings in which central banks' cooperation takes place, we make use of some results from NCGRT. Indeed, NCGRT can tell us much about why and where there has been cooperation, and where we can expect to see it in the future.

More specifically, as is well known, in such games the players' willingness to cooperate depends to a great extent on three factors: *i)* their subjective discount factors; *ii)* the overall level of economic activity; and, *iii)* the prevailing economic uncertainty.[5] Thus, it is surely a fragile

[4] Although documented by Padoa-Schioppa (2005), he did not advocate in favor of such doctrine.

[5] See Friedman (1971), Osborne (1976), and Green and Porter (1984) who study an

equilibrium and, in various instances, players can easily deviate from cooperative behavior and bring cooperation to a halt. In what follows, we consider these three issues in more detail.

Firstly, the players' willingness to collaborate depends directly on their discount factors. Accordingly, the temporal distribution of the costs and benefits for each player is key to the equilibrium. Having said that, consider that in this context these players are, after all, policy makers and, quite possibly, have incentives and optimization horizons that could pose problems similar to those of elected officials (even if they work in institutions which, in most cases, have been designed precisely to avoid the incentives faced by elected officials). More specifically, given the pressure central bankers face, say, in a crisis like the recent one, it is reasonable to assume that their subjective discount factors are high. Consequently, this puts a lot of weight on the potential *immediate*, or *short-run*, benefits of their decisions. Needless to say, this does not bear well for cooperation, in particular, as many of the cooperation's benefits only materialize in times further ahead.

Secondly, in unfavorable economic times the incentives to deviate are greater. Thus, given the relatively low levels of economic activity prevalent in the world, the players have fewer incentives to cooperate. The historical examples where the level cooperation has abruptly decreased for this reason are abundant.[6] In a sense, it is quite ironic that while it is in times of economic crises that the players' disposition to cooperate lessens, it is collectively when it is perhaps needed the most.

Thirdly, uncertainty is a key factor in the players' decision to cooperate. This is so as their reward for cooperating depends on pieces of information that they either individually do not have or that, from their

analogous problem under a cartel's framework. It is worth mentioning that the lack of an authority in their setting is due to the illegality of their actions. Nonetheless, both settings share common elements.

[6] To name a few, Europe from approximately 1870 to prior to the First World War vis-à-vis the First World War; the first half of the 20s vis-à-vis the Great Depression; and, more recently, the 1990s and the first years of the 21st century vis-à-vis the recent financial crisis and its aftermath.

point of view, are random. In contrast, their reward for not cooperating is either individually known or typically involves much less uncertainty.[7] Considering the uncertainty that has characterized the current environment and that directly affects each player, it is not surprising that the level of cooperation has possibly recently lessened.

Hence, under these circumstances, the players' willingness to cooperate diminishes. To put it bluntly, in the words of the late Anna Schwartz in the context of interventions: "Coordinated intervention is a fair-weather instrument because countries have independent interests that they will not sacrifice for the sake of the collectivity" (Schwartz 2000).

Presently, for instance, at the time of writing of this essay in many advanced economies we are witnessing a reduction in the balance sheets of households, governments, and banks. This has led, together with a very high degree of interconnectedness of the global economy, among other factors, to a current and expected relatively modest level of economic activity for both advanced and emerging market economies in the next few years. Given this scenario, one should expect in the short to medium-run, at best, an uncertain and relatively sluggish global economic growth path and, thus, in general, a relatively low level of cooperation.

Another dimension to the limits of cooperation refers to the fact that central banks have a bounded number of policy instruments, and each of those instruments has, in turn, a limit to what it can effectively achieve. Even in the presence of what seems to be in some cases ever increasing central banks' balance sheets, it is important to keep this in mind. This is so since, at times, central banks are asked or expected to do things that are simply beyond their reach. It is essential to lay emphasis on the fact that these limits are neither a matter of unwillingness nor of lack of capacity, but rather inherent restrictions to what these tools can actually achieve.[8]

[7] As opposed to the uncertainty associated with the decision to cooperate.
[8] El-Erian (2012) provides a keen analysis on central banks' policy limits.

All in all, central banks operate in very specific settings. Thus, their incentives to cooperate are not only imperfect but also change through time and with different contingencies. In addition, the tools at the central banks' disposal have specific limits. Thus, in analyzing, designing, and implementing cooperation schemes, one has to be aware of these and potentially others limits to cooperation among central banks.

2. The Importance of Cooperation among Central Banks

There are several instances where central bank cooperation has been, and will continue to be, critical. We would venture to say that the most relevant one is the provision of liquidity under times of financial stress. We have seen that under extreme circumstances, in which, for example, counterparty risk increases drastically, markets freeze, literally ceasing to function. In such cases, liquidity provision has allowed the unfreezing of markets, permitting them to function again. In effect, in some cases central banks have even had the role of the *dealer* of last resort.[9] For example, consider the interbank and the sovereign debt markets in Europe. Beyond any doubt, they would not be adequately functioning today without the European Central Bank's timely and effective support. In fact, one could use this example to directly refute *the house-in-order doctrine*. Other important examples were the dollar swap lines several central banks entered with the US Federal Reserve System beginning in December 2007 and, more recently, in May 2010.[10]

We consider that these actions have yielded the greatest benefits of central bank intervention and coordination. In fact, it is highly likely

[9] This is analogous to what has happened in many instances in the domestic front, in which central banks have swiftly responded providing liquidity to local financial markets in need.

[10] The Federal Reserve Bank set up dollar swap arrangements with 14 foreign central banks between December 2007 and October 2008, which expired in February 2010. In May 2010, the Federal Reserve Bank re-established dollar swap lines with a number of foreign central banks. As from May 2010, the authorization for these lines has been extended several times.

that, without them, the costs associated to the crisis would have been significantly greater than they have actually been. In this case, clearly, there are immediate, substantial, and certain benefits to cooperation among central banks. Note that this is consistent with NCGRT. In effect, cooperation in this case would be fairly likely, as in fact it has been. Considering the factors that in this context cooperation depends on, one could argue that since the benefits are immediate and reasonably assured, the subjective discount factor's role is downplayed and uncertainty is reduced to insignificant levels.[11] Thus, as expected, the players choose collectively to cooperate.

3. Further Central Banks' Cooperation

Before taking the discussion to those tracks where the record on cooperation has been more mixed, we have to lay out some preliminary groundwork. Prior to the crisis, significant economic difficulties had emerged in the world economy. To a great extent, these difficulties are closely related to the tensions that arise in the interaction of the demand and supply of the world's most important reserve currency, that is, the US dollar. In fact, many believe that these contributed to the crisis itself. We revise them in turn.

On the one hand, given the different countries' needs to develop self-insurance policies, their export-led growth strategies, and other related policies, the demand for the global reserve currency has definitely been a factor that has contributed to the well-known problem of global imbalances. Notwithstanding the debate about the causes, consequences, and outlook of global imbalances, we believe that the dynamics of the demand for the global reserve currency has been one of its culprits.[12]

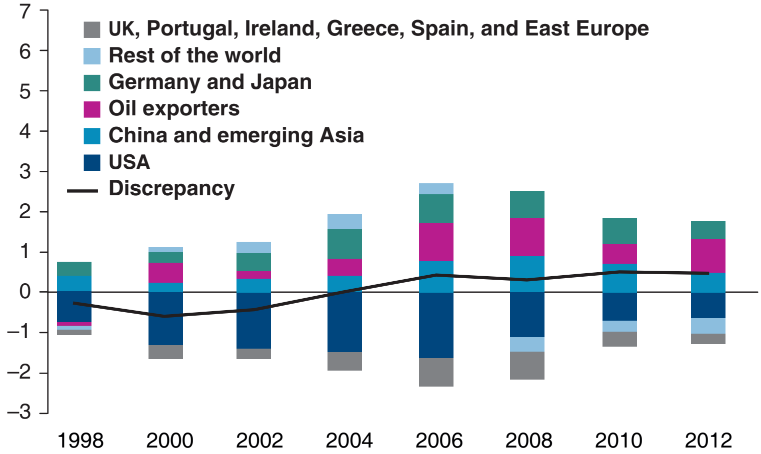
In this respect, Figure 1 presents the current accounts of the main regions or countries. At least four known facts are apparent. First, a small set of countries' current accounts form their bulk. Second, the

[11] This uncertainty refers to the benefits of cooperating rather than the overall uncertainty.
[12] For a lively debate on global imbalances see, for example, Bank of France (2011).

Figure 1

CURRENT ACCOUNTS OF SELECTED COUNTRIES

(Percentage of the world's GDP)



Source: International Monetary Fund.
Notes: East Europe refers to: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia, and Turkey. Rest of the world refers to all of the countries that report their current account to the IMF that are not otherwise indicated. Emerging Asia refers to: Hong Kong SAR, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand.

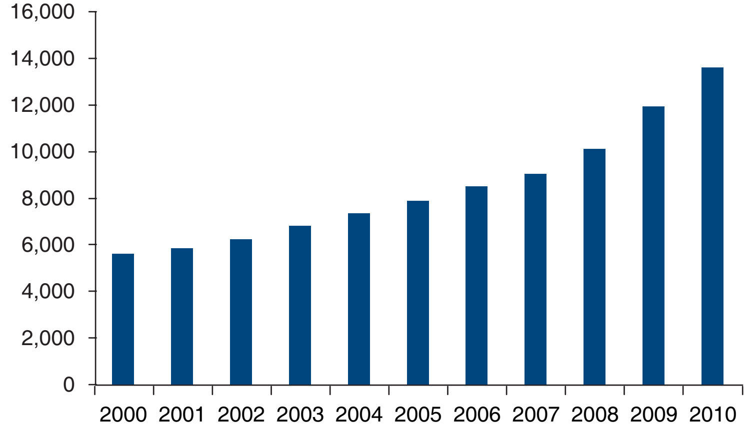
pattern of surpluses/deficits is very persistent. Third, the US has undergone one of the largest adjustments. And, fourth, certain emerging markets (e.g., Brazil, Chile, India, Peru, Ukraine, etc.) have had to bear a disproportionate share of the burden from rebalancing.

With respect to the supply of US dollars, its minter faces, in the short and medium runs, a dilemma *similar* to Triffin's. Going forward, the relevant issue in this respect is whether the United States will have the sufficient fiscal firepower to satisfy the rest of the world's demand for reserve currency denominated assets, especially in light of

Figure 2

US OUTSTANDING DEBT

(In billions of USD)



Source: <www.treasurydirect.gov>.
Notes: The data refers to the outstanding debt balance by the end of September in each year.

the current fiscal adjustment and, more generally, the political debate that surrounds it. The demand for reserve currency seems to be ever increasing, having augmented more than twofold from 2000 to 2010 (Figure 2).

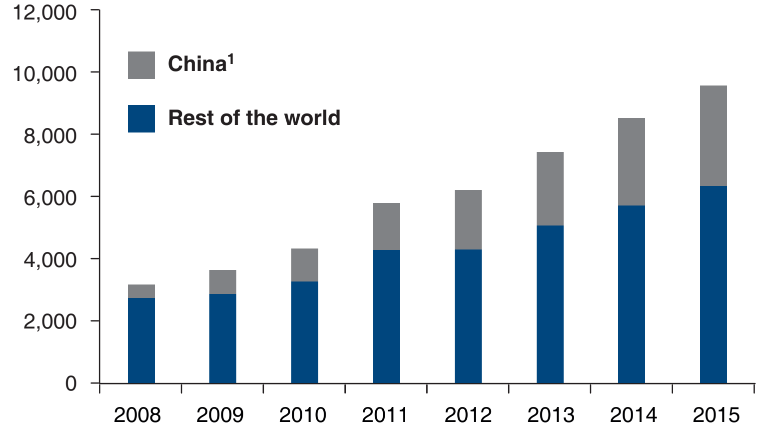
Also, in this regard, Figure 3 shows the aggregate international reserves for all the countries that report this information to the IMF and for China.[13] Two well-known trends in the referred figure stand out. First, the aggregate reserves' breakneck growth pace observed during recent years. Secondly, China's international reserves sheer magnitude. To get a sense of its scale, consider that in 2011 China's GDP stood for approximately 10% of the world's GDP. Nonetheless, its international

[13] China reports its international reserves through its State Administration of Foreign Exchange (SAFE).

Figure 3

AGGREGATE INTERNATIONAL RESERVES

(In billions of USD)



Sources: International Monetary Fund (IMF) for "Rest of the world," and China's State Administration of Foreign Exchange (SAFE) and Bloomberg for China.

Notes: The data are with respect to December of each year. The "Rest of the world" component includes all of the countries that report their reserves to the International Monetary Fund.

[1] The 2011 datum for China refers only to its reserves in foreign currencies.

reserves with respect to the world's total are considerably above this proportion, reaching almost a third of the total.

In sum, it is not unreasonable to say that the global economy's dynamics, which have led to the presence of the so-called global imbalances, suggest, among others, a lack of cooperation between central banks and economies in general.

We now go back to the issue of cooperation. Since the beginning of the crisis, some coordination among some central banks has been attempted (other than for global financial markets stabilization purposes) in an effort to support global economic growth. Yet, coordinating a common monetary policy is quite problematic, for a plethora of reasons.

First, and most obvious, monetary policy mainly responds to local business cycles, among other, domestic macroeconomic conditions. Thus, trying to coordinate a common response, needless to say, would be untimely for many economies. It is worth mentioning that this same rationale applies to the fiscal policy coordination issue.

Second, it is evident that even if a large country's monetary policy leads to externalities in other countries, thus making a clear case for cooperation, the large country's central bank mandate will probably not include the (other) affected economies' welfare. In particular, one has to keep in mind that the traditional monetary policy framework assumes that its effects beyond the country in question are essentially inconsequential. Nevertheless, it is nowadays acknowledged that significant external effects abroad can take place and can have considerable consequences, byproduct of changes in the large country's policy.[14]

Third, and perhaps most importantly, some of the shocks during the recent crisis have been real ones. In particular, these shocks have affected many advanced economies. Thus, although monetary policy has been, as mentioned, effectively used to facilitate markets functioning and, also, to elude bad expectations equilibria, it is doubtful that it can be used effectively as a response to real shocks. In particular, relative price distortions, such as real exchange rate misalignments, can hardly be permanently corrected through monetary policy. In this case, monetary policy would at best have a limited and transitory outcome. In effect, areas such as the competitiveness of an economy cannot find an enduring solution in a modification of monetary policy.

Using monetary policy to respond to this type of contingencies, to put it mildly, as we all very well know, can have significant drawbacks, not least amongst them, adverse externalities on other economies. Unfortunately, too many central banks have been recurring to this type of policies lately. Thus, using monetary policy to try and make an economy more competitive, not only will most likely have adverse effects

[14] For example, see Eichengreen et al. (2011).

on other economies, but it can bring about very adverse incentives for other economies to follow suit and, thus, lead to *beggar-thy-neighbor* policies or *currency wars*.

On the financial regulation and supervision fronts, there are several issues worth considering. Let us highlight those that we believe are the most relevant ones. First, given the significant number of existing financial institutions that operate across borders, the authorities in the respective countries have to coordinate financial regulation in order to avoid the so-called regulatory arbitrage. For example, it is essential to have resolution mechanisms for financial institutions that account for the fact that in many instances these institutions operate and are incorporated in countries with very different legal regimes.

In addition, the level of interconnectedness between economies in today's world has to be taken into consideration. Above and beyond the global nature of many firms, the economies' interconnectedness has dramatically changed in many dimensions during the past several years.[15] Accordingly, this has potentially increased feedback effects across different economies due to a macroeconomic shock. In sum, such mechanisms have to be designed acknowledging that assessing, monitoring, and enforcing them has to be accomplished in different countries. This ineludibly calls for cooperation in many respects.

Second, big economies need to take into consideration the consequences its policies might have beyond their borders, specifically, in small open economies. In this context, it is convenient to recall, as way of an example, the Dodd-Frank Law and, in particular, the Volcker Rule.[16, 17] In this respect, one could certainly take for granted that the implementation of certain policies is suitable for the markets they are envisioned for. Nevertheless, they might have unintended

[15] For one dimension of this interconnectedness, see for example Grossman and Rossi-Hansberg (2007).

[16] The Dodd-Frank Act (officially the Dodd-Frank Wall Street Reform and Consumer Protection Act) was signed into law by President Obama on July 21, 2010.

[17] In general terms, the Volcker Rule prohibits an insured depository institution from engaging in proprietary trading. This intends to reduce systemic risk.

consequences in other economies, particularly in emerging markets and developing ones (EMDEs).

More concretely, for instance, the Volcker Rule could affect the financial markets within the referred economies in at least the following two ways. First, if the financial institutions in the emerging economies that are affiliated to banks in the United States are also subject to the restrictions required by that Rule, their demand for local government assets might be seriously affected. This, accordingly, might affect the local governments' financial capacity as well.

Second, more directly, the cross-border effects may be caused by spillovers due to the international activities of foreign financial companies. Thus, these regulations should be designed considering possible unintended consequences, specifically, those that have significant implications in countries beyond the one where such regulations are intended for.

In contrast, we do think that there has been much progress in implementing a new international regulatory framework and, for this, cooperation among central banks has been indeed fundamental. More concretely, work done by the Basel Committee on Banking Supervision and the Financial Stability Board (FSB), on topics such as capital and liquidity requirements, has been decisive to the advancement of the central banks' cooperation agenda. Although benefits may accrue in a long period, these are actually very large and not much uncertainty surrounds them.

Considering this same issue from another perspective, we have seen what an inefficiently regulated, inadequately supervised, continually changing, and highly interconnected financial system can lead to. Thus, there is clearly some need to advance the cooperation agenda in terms of international coordinated financial regulation.

4. Final Remarks

The recent financial crisis has been a watershed in many respects and cooperation among central banks is not the exception. In this context, it has been said on many occasions that the greatest cost of a crisis is not having learned from it. Let us then reject this cost. In particular, the formulation of a cooperation framework has to be advanced during favorable economic times, in which it is more likely for participants to be willing to get involved.

All in all, with the benefit of hindsight, we would like to underscore the following points. First, although central bank cooperation is desirable, it is relevant to keep in mind that there are limits to what central banks, within non-cooperative repeated games, can achieve and what central banks' tools can do in general.

Second, central bank cooperation should be a permanent effort rather than an intermittent one. This derives from the fact that the banks' incentives and their willingness to cooperate change through time and contingencies. Thus, if the planning and negotiation of cooperation schemes are also performed in better economic times, chances are that they will be more likely to withstand the unfavorable ones.

Third, there are some specific areas in which there can be a greater level of cooperation among central banks, such as coordinating the implementation of financial regulation. In addition, it is desirable to take into account the policies' unintended consequences in one country, in particular beyond its borders. In other areas, like macroeconomic policy, cooperation looks much more difficult. As an example, the type of incentives that have been put in place by economies which are pushing for competitive devaluations of their currencies does not bode well for the global growth equilibrium.

Nevertheless, efforts such as those made in fora like G20 are the right way to go, and hopefully will improve the odds for central banks' willingness to take cooperation to a higher level. Accordingly, we will then be in a better position to reap more benefits and face the challenges, in terms of cooperation among central banks, lying ahead of us.

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Keynote Address

Jaime Caruana

Central Bank Cooperation: Reflections on the Experience of the Last Eight Decades

It is a great honor and gives me great pleasure to speak here at this conference commemorating CEMLA's 60th anniversary. The track record of CEMLA since its foundation in 1952 –in promoting monetary studies and technical cooperation among central banks and contributing to the professional formation of central bank staff– bears witness not only to the desirability of international central bank cooperation, but also to its reality. Central banks undoubtedly have a certain propensity for looking across national borders. After all, each central bank is a unique institution within its own country, with its own national mandate. When central bankers want to share their specific experiences and concerns with like-minded professionals, they naturally turn to other central banks. Moreover, and more importantly, globalization, common risks and cross-border interdependence have made international

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cooperation a necessity for central bankers –particularly now when there is a worrying tendency toward fragmentation and renationalization of financial markets.

The Bank for International Settlements was created in 1930 by a generation of forward-looking central bankers. They made sure that "the promotion of central bank cooperation" was listed as one of the key objectives in the BIS's Statutes. For over 80 years now, the BIS has played an active role in international central bank cooperation. It is from this perspective that I would like to share with you some reflections on the past and future of central bank cooperation.

In this complex and interdependent world there is, and will continue to be, a clear need for structured, institutionalized central bank cooperation. But also, that to be effective and legitimate, such cooperation must continuously evolve and adapt to an evolving international monetary and financial environment, with financial and economic crises serving as catalysts for change. Put differently, the evolution of central bank cooperation is inherently linked to the challenges presented by the evolution of the international monetary and financial environment, changes in institutional frameworks and advances in economic thought.

Let me develop this overriding theme, first by looking at the historical experience of central bank cooperation since the interwar period, and then by tentatively outlining some of the challenges and prospects ahead.

Global Central Bank Cooperation: Evolution and Experiences

Broadly speaking, until the 1970s central bank cooperation was dictated by the belief that a fixed exchange rate system was a desirable goal that advanced the key domestic objective of price stability. But within this general conceptual framework, the prevailing monetary and financial regime underwent significant changes which led to important differences in the targets and tools of cooperation.

In the early days of modern central banking, under the gold standard regime, the scope for central bank cooperation was rather limited. Gold convertibility, provoking *automatic* adjustment of imbalances, acted as the ultimate constraint. The cooperation that did take place happened on a bilateral and ad hoc basis, mainly on the occasion of severe banking crises, as in 1890 to limit the fallout of the Baring crisis, or during the 1907 financial crisis. In both cases, emergency liquidity lending served the overriding goal of maintaining gold convertibility.

The collapse of the gold standard and the international efforts to restore it in the interwar period increased the scope for central bank cooperation. This was partly because of the technical complexity of the exercise, which propelled the major central banks at the core of the system into an advisory role vis-à-vis other central banks. It was also due to the intricate economic and political constraints within which the restoration had to take place –wartime reparations and debts– which presented severe international coordination problems. The creation of the BIS in 1930 responded to these challenges. The BIS, for the first time in central bank history, institutionally embodied multilateral central bank cooperation. However, in the wake of the economic and political dislocations following the Great Depression, most central banks, which previously had enjoyed independence, came under direct control of fiscal authorities, and central bank cooperation receded. The lack of central bank cooperation reflected the global political and economic retrenchment characteristic of the 1930s.

After 1945, under the Bretton Woods fixed exchange rate regime, the management of exchange rates was entrusted to the newly created International Monetary Fund (IMF), an intergovernmental organization. Gold acted as a soft constraint on the system, and financial repression kept overt financial instability in check. In this relatively stable and safe –perhaps even dull– environment, it was said that central banks did not have to do much, and did it very well. This was so at least in theory. In practice, central banks were very active, as increasing capital mobility and divergent monetary policies required increased central bank cooperation to defend the Bretton Woods system. Despite their ultimate lack of success, these efforts established a lasting framework of institutionalized cooperation among central banks. Much of this took place at the BIS, enhancing its role as a forum for central bank cooperation. The establishment of important regional forums for central bank cooperation, in particular CEMLA in 1952, occurred in the Bretton Woods era.

After the collapse of the Bretton Woods system in the early 1970s, the scope for global central bank cooperation in the field of monetary policy was reduced as the major currency blocs pursued monetary policy independently under flexible exchange rates. However, the lessons of the Great Inflation of the 1970s led to the adoption of modern monetary policy frameworks, with a price stability orientation underpinned by central bank independence. This new consensus was reached in the context of *light* central bank cooperation in the form of regular and frank discussions at the BIS and elsewhere. This is not to say that the desire for deeper cooperation had evaporated. The Europeans were a case in point, when in the 1970s –using the BIS as a coordination platform– they started to plan for regional monetary unification through the so-called currency snake and the European Monetary System. But the general, global trend was clearly toward light cooperation in the monetary field.

The scope for cooperation in the field of financial stability, by contrast, increased strongly. As financial repression gave way to financial liberalization, international banking and international capital mobility went through a period of rapid expansion fuelled by abundant funding liquidity (including in the form of petrodollars). This was undoubtedly beneficial to the development of the global economy. But the flip side was the return of banking crises with potentially systemic repercussions, of which there had been none since the Second World War. In response to these developments, since the 1970s central banks have cooperated in the pursuit of financial stability. The Basel Committee on Banking Supervision was created at the end of 1974 in direct response to the banking crisis earlier that year, with the highly publicized collapse of Bankhaus Herstatt in Germany and Franklin National Bank in the United States. The BIS and new high-level committees hosted by the BIS, such as the Basel Committee and the Committee on the Global

Financial System, played important roles in developing guidelines for the design and implementation of common standards and policies (the Basel I, II and III capital adequacy frameworks), and in compiling data on new markets and instruments. This *Basel Process*, which consists of the cooperation of the committees and standard-setting bodies hosted by the BIS, has become essential to promote international financial and monetary cooperation. In that context, already in the late 1970s central banks groped for a *macroprudential* approach to financial stability. This concept would be developed more fully only after 2000, and in particular in the wake of the current crisis, into a policy arm that aims to contain more broadly systemic risk.

The global financial crisis has given new impetus to global central bank cooperation. Central banks took coordinated action, for example by providing ample liquidity after the Lehman collapse in 2008 and by establishing currency swap lines. The extension of such swaps in unlimited amounts represents a turn in central bank cooperation that the founders of the BIS would have found unimaginable. Moreover, the geographical expansion of central bank cooperation was reinforced, as reflected in the expanded membership and enhanced role of the G20, the FSB and the Global Economy Meeting at the BIS –which are a manifestation of the important role that emerging economies play in today's global economy. Today, the *Basel way* of international cooperation and informal exchange of experiences has become a key complement to multilateral surveillance.

This brief review of the evolution of central bank cooperation over the past 80 years shows that the targets and intensity of central bank cooperation have been deeply affected by the global monetary and financial environment, and that crises have catalyzed change. But what does this mean for the future of central bank cooperation?

Prospects and Challenges

The global financial crisis has ratcheted up central bank cooperation in financial stability matters. And central banks will continue cooperating closely in the context of the ongoing efforts to enhance global financial regulation and supervision. This will involve the implementation of new standards; addressing open issues in the regulatory reform agenda, specifically resolution regimes, derivatives market infrastructure and shadow banking systems; and enhancing financial oversight frameworks, in particular developing macroprudential frameworks in which central banks will play an important role.[1]

At the same time, central banks have intensified, and will need to further intensify, their cooperation in monetary policy matters in order to meet the daunting economic, intellectual and institutional challenges they face. The economic context in which central banks operate has become a very difficult one, with disappointing growth and high levels of public and private debt. In many advanced economies, central banks find themselves pushed to be the policymakers of last resort as the root causes of the protracted economic weakness and financial fragility have still not been sufficiently addressed. Central banks are providing monetary stimulus on a massive scale, supplying liquidity to banks and easing governments' financing burdens. Central banks in emerging market economies are confronted with their own challenges as well as the spillover effects of these policies, which manifest themselves in undesirable capital flow and exchange rate volatility. Amid these economic challenges, central banks face significant intellectual challenges as the crisis exposed the limitations of the precrisis policy consensus and of the macroeconomic models that underpinned it. And the unsustainable fiscal positions in many countries as well as central banks' new tasks in the area of financial stability raise institutional challenges as central banks need to preserve their operational independence and their credibility.

Central bank cooperation will be essential to foster a common understanding of the nature of these challenges and to forge a new consensus on how to address them. From the point of view of the BIS, such a new consensus would need to incorporate three main points.

[1] See J. Caruana, "Progress and Challenges in Financial Reform," speech at the XXI International Banking Congress, St. Petersburg, June 6, 2012.

First is the need to restore symmetry in the conduct of monetary policy over the financial cycle. Over the past 10 to 15 years, central banks have tended to loosen monetary policy aggressively during a crisis, but to tighten only cautiously prior to crises and in the recovery. As a consequence, interest rates in many economies have gradually trended down –in the core advanced economies, all the way to their effective lower bound– narrowing policymakers' room for manouvre. A more symmetrical approach is called for over the financial cycle, with monetary policy easing less persistently during the bust and tightening more aggressively in the boom.

Policy frameworks should be adjusted so that central banks can contribute more effectively to containing the buildup of financial imbalances and increase the strength and resilience of the financial system. In order to do so, central banks will need longer policy horizons than the two years or so typical of inflation targeting regimes. This could reveal the risks to macroeconomic stability that result from financial imbalances, and would give central banks more scope for leaning against financial booms even when near-term inflation is consistent with central banks' target level or range. This means that price stability-oriented frameworks, such as inflation targeting regimes, should be implemented in a flexible way with a systematic assessment of the balance of risks ahead, including in particular those emanating from financial developments. In this context, central banks will also have to address the conceptual weakness of their precrisis analytical models, which will need to be further developed to better capture the interplay between financial factors and the real economy.

Restoring symmetry also involves reconsidering the monetary policy responses to the financial busts that follow credit booms. The prevailing view, which prescribes very aggressive and prolonged monetary easing, arguably underestimates the resulting collateral damage. When a crisis erupts, central banks should certainly do everything in their power to prevent the collapse of the system. But once the most severe phases of the crisis have been managed, the policy focus should shift toward promoting the necessary post-crisis adjustments in balance sheets and the economy at large. Prolonged monetary easing buys time for making such necessary adjustments, but also generates incentives that make it more likely that the time will not be used optimally, that the return to self-sustaining recovery will thus be delayed and that distortions will be created in the real economy. Furthermore, the cross-border spillover effects can give rise to additional distortions in financial markets and the real economy, as well as risks for financial and price stability.

This brings me to the second point, the need to better internalize the externalities arising from monetary policy spillovers across currency areas. Tightly integrated markets for production factors and financial instruments across the globe mean that a country's economic and financial conditions are increasingly shaped by global conditions. Persistently low interest rates in the core advanced economies lead to persistently large interest rate differentials supporting capital and credit flows to fast-growing emerging market economies and putting upward pressure on their exchange rates. To be sure, such flows are also driven by better economic fundamentals in emerging market countries, especially their improved long-term growth prospects, the successful implementation of structural reforms and their greater participation in the global economy. Nevertheless, the consequence is that emerging market central banks are induced to raise interest rates only hesitantly in response to buoyant domestic macroeconomic and financial conditions to avoid further widening interest rate differentials and further boosting capital inflows. As a result, monetary policy may have tended to be systematically too loose over the past years.

The prevailing loose global monetary conditions have been fuelling credit and asset price booms in some emerging market economies for quite some time now, creating risks of rising financial imbalances similar to those seen in advanced economies in the years immediately preceding the crisis. They have probably also contributed to heightened commodity price volatility over the past years. Commodity prices are set in global auction markets and are very sensitive to global demand conditions, which are also influenced by global monetary conditions.

This sensitivity may have further increased as a result of the growing role of financial investors in commodity markets. The effects of higher commodity price volatility was felt in particular in emerging market economies, where two bouts of rising inflation since 2006 have been associated with increasing commodity prices.

The growing relevance of monetary policy spillovers suggests that central banks need to take better account of the global implications of their actions. In a highly globalized world, monetary policy also needs to take a more global perspective to ensure lasting price and financial stability. Put differently, central banks need to go beyond the *own house in order* doctrine. This does not necessarily mean monetary policy coordination at the global level, but does require central banks to better appreciate and internalize the side effects and feedbacks that arise from individual monetary policies. The first step toward doing so is to recognize such effects. This will require a shift to a more global analytical approach, one that seeks to factor in interactions and feedback effects.

I would therefore tend to agree with the call recently brought forward by prominent academics and practitioners[2] to allow global considerations to play a more explicit role in the monetary policy frameworks of the major central banks and to urge central banks to pay more attention to the global implications of their collective actions. Where I am more sceptical is the proposal to formalize cooperative arrangements through, for instance, a requirement for the major central banks to outline publicly the mutual consistency of their policies. Requiring central banks to publicly lay bare areas of inconsistency and dissent could turn out to be counterproductive as it might damage the atmosphere of mutual trust that is needed for effective cooperation.

The informal but structured nature of the meetings that take place at the BIS has proven to be conducive to ensuring a frank exchange

[2] Barry Eichengreen, Mohamed El-Erian, Arminio Fraga, Takatoshi Ito, Jean Pisani-Ferry, Eswar Prasad, Raghuram Rajan, María Ramos, Carmen Reinhart, Helene Rey, Dani Rodrik, Kenneth Rogoff, Hyun Song Shin, Andrés Velasco, Beatrice Weder di Mauro and Yongding Yu, *Rethinking Central Banking,* Brookings Institution, 2011.

of views on the international dimension of domestic policies. Over the past years, the discussions in these meetings have focused squarely on the key issues in global financial and economic stability, including global spillovers. That said, further progress in central bank cooperation is clearly needed. In this vein, regional forums such as CEMLA will continue playing an important role in the development of more effective cooperative arrangements.

Third, and finally, central banks need to safeguard their operational independence and their credibility. Central banks' new tasks in the areas of financial supervision, regulation and macroprudential policies raise new institutional challenges in this respect. One argument for assigning financial stability responsibilities to central banks is that they already enjoy, and have demonstrated, independence in the conduct of monetary policy. However, this also implies that central banks' new powers need to be underpinned by a clear mandate that includes arrangements that safeguard their operational independence. They need to be compatible with central banks' monetary policy responsibilities and equip them with appropriate tools, authorities and safeguards. In particular, clarity about roles, responsibilities and powers is the precondition for ensuring consistency between what central banks are expected to do and what they can deliver, as well as for accountability and effective policymaking. Both accountability and effectiveness can be improved through a clear policy on communicating the central bank's strategy for fulfilling its mandate.

At the same time, central banks need to beware of the longer-term risks to their credibility and operational autonomy that arise from the current difficult economic environment. Central banks in the core advanced economies may come under growing pressure to provide ever more monetary stimulus and funding support if the economy's weakness persists, markets continue to be dependent on central bank operations, and underlying solvency and structural problems remain unresolved. A vicious circle can be developed which would make the eventual exit from monetary accommodation harder. Similarly, continued reliance on export-led growth strategies in some emerging market economies may raise doubts about central banks' determination to pursue price stability and exit from large-scale foreign exchange interventions. These concerns are reinforced by political economy risks arising from the combination of central bank balance sheet policies that have blurred the line between monetary and fiscal policies and the unsustainable trajectory of fiscal positions in some economies.

Conclusions

The evolution of central bank cooperation over the past 80 years has been inherently linked to that of the international monetary and financial environment, with financial and economic crises serving as catalysts for change. The global financial crisis has raised new, fundamental challenges for monetary policy globally. Close regional and global central bank cooperation in the form of a structured and regular exchange of views will be essential to foster a common understanding of the issues and to converge on solutions. Central banks need to forge a new consensus on how to address the challenges they face. I have suggested that such a consensus should incorporate three main points: more symmetry in the conduct of monetary policy over the financial cycle; more internalization of global monetary policy spillovers; and safeguarding the credibility and operational independence of central banks. This will be key to avoiding *beggar-thy-neighbor* policies and to increasing the chances for lasting global financial and price stability. Meeting these challenges will also depend on central banks' continued ability to retain and attract talent, as well as on their ability to learn and continuously adapt to changing environments. Cooperative efforts by central banks in training and research, both at the global level and through regional arrangements like CEMLA, will be key for succeeding in this endeavor. I would like to end by congratulating CEMLA once again on its 60th anniversary and highlighting the excellent collaboration we enjoy. We hope to continue to strengthen it in the future.

Panel 5
Global Financial Stability and Central Bank Cooperation: What Have We Learned?

Manuel Sánchez González

Presentation

It is an honor for me to participate in this conference commemorating the 60th anniversary of the Center for Latin American Monetary Studies (CEMLA) and exchange ideas with distinguished members of this panel named "Global Financial Stability and Central Bank Cooperation: What Have We Learned?"

CEMLA has been a key organization for collaboration among central banks, promoting research, understanding and training on monetary and financial topics. I would like to congratulate the Center on its anniversary and the excellent initiative of organizing this conference. I wish them many more years of successfully working for their benefit of our countries.

The Importance of Financial Stability and Economic Policy

As we know, the proper functioning of any economy requires that the different components of its financial system operate continually and

Deputy Governor of Bank of Mexico.

smoothly, without suffering any significant interruptions or alterations in spite of the different types of shocks that might appear. This is what we generally describe as financial stability.

Central banks perform a fundamental role in the quest for this stability. By their very nature these institutions must create a currency which can be used by society as a reliable means of payment, which implies the task of controlling inflation. Empirical evidence confirms that price stability is a requirement for financial system stability and even for sustainable economic growth.

The law also frequently assigns central banks other responsibilities including those related to the development of the financial system and payments systems. Moreover, in many countries some authorities other than central banks have wide ranging responsibilities over fundamental aspects of financial system regulation and supervision. The proper exercise of these functions should promote stability.

The fact that financial system oversight functions are shared between central banks and other entities in the domestic environment has made collaboration among a country's authorities indispensable. Interaction has appeared in many ways, including the exchange of information, requirements for one authority to give its opinion on the decisions of another, the participation of central bank members on the boards of different authorities and, recently, joint participation on financial stability boards.

However, the fact that national financial systems and markets are closely interconnected means financial stability has to a great extent become an essentially global idea. The implications of international links can be considerable.

For instance, financial stability in one country can affect stability in other regions if there are branches of banks operating there whose head offices are located in countries with problems. Furthermore, the weakness of a parent bank in one country could imply greater capital costs for its subsidiaries in other countries.

The measures adopted by some nations could also affect the financial systems of others, for example, in the way monetary stances drive capital flows toward other economies or the regulations of international banks that limit the development of certain markets in other countries.

Moreover, the economic situations and policies of some countries may trigger economic policy reactions in others such as, for example, the implementation of controls on capital inflows and outflows that are considered to be *excessive*.

Central Bank Cooperation

Growing financial interconnection explains why in recent years dialogue and collaboration among authorities has increased, particularly among central banks of different jurisdictions. The channels for this collaboration are well known, including the exchange of information, opinions and experiences, either bilaterally or within international institutions and groups.[1]

It is worth underlining the arduous coordination efforts to jointly strengthen bank regulatory and supervisory frameworks led by the Financial Stability Board (FSB) and the Basel Committee on Banking Supervision (BCBS).

The scope of the work has been broad, including stricter capital and liquidity standards, international resolution mechanisms, widening the regulatory perimeter, cross-border transactions, additional capital requirements for global and local systemically important banks, the creation of supervisory colleges, the standardization of over-the-counter derivatives and the use of central counterparties for trading such assets.

There is perhaps no better example of effective collaboration than that which emerged during the recent international crisis in the form of temporary reciprocal currency exchange mechanisms for supplying liquidity, known as *swap lines*. In particular, central banks responded to the lack of liquidity in specific currencies by establishing these lines,

[1] For a detailed history of central bank cooperation see C. Borio and G. Toniolo (2006), *One Hundred and Thirty Years of Central Bank Cooperation: A BIS Perspective*, BIS Working Papers, No. 197.

allowing the central banks of currencies in short supply to offer them to the commercial banks of countries requiring them.[2]

Lessons and Pending Questions

Experience in financial stability tasks and central bank cooperation teaches us important lessons, which are the subject of discussion by this panel. Just for the purpose of starting the debate I would like to identify some lessons and questions.

The first lesson is that collaboration among central banks has been fruitful regarding the exchange of knowledge on monetary and financial practices and policies.

The second lesson is that of humility. Although closer links have been forged, and central bank methods of analysis and communication have been improved, neither the frequency nor intensity of financial crises has been reduced. Obviously, the most dramatic case for many decades has been the great international crisis whose epicenter was the USA and which was not diagnosed or prevented by financial authorities.

The third lesson is that we are still far from understanding how to keep systemic risk at low levels without hindering the healthy development of the financial system. In particular, it seems that we are better at managing a crisis than preventing one.

These and other possible lessons lead us to ask crucial economic policy questions, of which I have randomly selected four:

- First. What would be the minimum agenda for understanding the possible causes of financial crises and contagion mechanisms? For example, what is the true relevance of so-called global imbalances that seem to be essential for leveraging specialization and

[2] The lines used central banks as intermediaries to provide liquidity to commercial banks that required it, meaning credit risk fell on the intermediary central banks. For a study on the effectiveness of these lines see W.A. Allen y R. Moessner (2010), *Central Bank Co-operation and International Liquidity in the Financial Crisis of 2008-9*, BIS Working Papers, No. 310.

investment opportunities in a world with countries at different levels of development?

- Second. What are the best policies for combating such problems? In particular, what would be the optimum mix between domestic and international policies to prevent the possible causes of instability?
- Third. In monetary policy, where should the scope of own jurisdiction end and that of the world begin? For example, under what conditions should central banks incorporate the possible effects of their policies on other economies?
- Fourth. What should they avoid and, where applicable, what would be the best response of the monetary authorities to the policies of other countries that are making their decisions difficult?

Finally, I would like to reiterate my congratulations and gratitude to CEMLA, and express my wish that through improved joint understanding and collaboration, those of us who work at central banks can better contribute to the financial stability of our countries in the future.

Miguel Pesce

Global Financial Stability and Central Bank Cooperation: What Have We Learned?

I am absolutely sure that those in charge at CEMLA will rise to the challenges the institution will have to face in the future. As we have seen at this meeting, these will be many and very important.

The debate, opened yesterday by Mario Blejer about the criteria according to which central bank tasks have been performed, was very stimulating and in some way complemented the remarks made by Agustín Carstens. The fundamentals of how central banks have been operating in recent years will be brought into question and we must be prepared for the coming debate on this subject. The problems of recession consolidated in the world's most important countries have set forth, and will set forth, new challenges for their monetary institutions. Such was the case of Argentina, which experienced a prolonged and deep recession between 1998 and 2002. The policies of the country's central bank played an important role in its exit from this recession.

Vice-president of Central Bank of Argentina.

In this regard, I would like to add two factors that question the models which have until now dominated the management of central banks in the region. The first is that, although no chronic stagnation such as that of Europe is expected in our region, we must solve the problems of inequality and poverty that affect it so much, and central bank objectives should probably include attention to these objectives. The second is that, although the model of inflation targeting has fulfilled its role in fine tuning the control of inflation in some countries, in the last few decades there has been a structural factor working to control it. I am referring to the processes for opening up trade (tariffs and barriers were steadily reduced from 26% to 8.8% between 1986 and 2007)[1] accompanied by a decrease in the costs of producing goods in emerging countries, especially China, and high commodity prices, giving this group of economies greater capacity for importing goods. Such situation has been changing recently: improved wages in emerging countries, particularly China, have reduced the power of this moderator of international prices. This will lead to the emergence of pressures that we have not had to face for many years, posing a new challenge for central banks. It is regarding these new issues that we need the intellectual support of CEMLA for seeing how we can tackle them.

In order to refer specifically to central bank cooperation, I am going to begin by recalling some verses of Jorge Luis Borges that say "it is not love that unites us but fear/maybe that is why I love it so". When one reads Charles Goodhart's recent book about the Basel Committee on Banking Supervision,[2] one understands that it is not just fear that unifies central banks, but it has surely served as an unfailing catalyst for ensuring decisions are taken that might otherwise have been delayed.

It is also intriguing that regions which have been very successful at integrating themselves politically, commercially and even monetarily

[1] See Miguel Pesce, *Monetary Policy and Measures of Inflation*, BIS Papers, No. 49, Bank for International Settlements, Basel, January 2010, pp. 93-106.

[2] Charles Goodhart, *The Basel Committee on Banking Supervision. A History of the Early Years, 1974-1997*, Cambridge University Press, 2011.

have found financial and fiscal integration strikingly difficult. It is important to remember that every coordination agreement involves giving up some sovereignty or authority. Why is it easier to give up commercial or monetary authority than financial authority?

On this panel we have to identify what we have learned regarding cooperation and financial stability. I am going to give some viewpoints, not in detail that can be taken as conclusions, opinions or categorical imperatives, without classifying any of them as such:

1) I believe it is important to emphasize that economic cooperation and integration among countries is one of the good pieces of news from our time. Enmity between neighboring countries during the last century was mainly founded on the struggle for economic resources. Nowadays economic resources can be motives for peace and integration, and examples of this can be found all around the world.

Nevertheless, it is important to take care with these processes because their inertia or step by step progress implies risks. If there is to be *monetary integration, local financial and fiscal authority must be given up*. Monetary integration demands more than usual financial regulation agreements –authority should be placed in the hands of a regional regulator. On the contrary the risks of financial instability are very high.

2) In order for there to be global financial stability it is necessary for there to be *several international reference currencies* with international reserve characteristics, providing countries whose currency has such characteristics with the policy flexibility to face their local problems without dragging the international system into them. When I refer to international reference currencies I am referring to the currencies of countries that are significant because of the size of their GDP, population and weight in world trade. In most cases we consider world currencies as those of countries, which due to their size, are not large enough to support investment of the liquid resources they receive and these end up being invested in other jurisdictions that are. Since the end of the Second World War this possibility has basically been concentrated in the USA. The possibility that there is more than one international currency makes sense because it would allow that country to have more freedom in decisions originating from its domestic economic policy requirements, reducing the effects that its monetary policy has on the global economy. We must not here disregard the study of institutional tools such as the IMF's special drawing rights (SDR) as an international system for generating liquidity, particularly for countries whose currencies are not included in the SDR basket.

3) The processes of regional monetary integration must include mechanisms for *solving member states' liquidity or insolvency problems* in such way as to not affect either regional financial stability or allow it to spread to the rest of the world. I believe it is here that USA's experience regarding the Bankruptcy Code should be taken into account.

4) Legislation in countries where external sovereign debt is issued in their markets must include *resolution mechanisms similar to those they provide for their subnational institutions*, allowing or establishing mechanisms for collective action.

5) Liquidity leakage and leverage from one market to another must be strictly regulated in order to avoid moral risk situations and critical situations in one of the actors passing through to the other.

6) Countries without international currencies must be able to establish *defensive measures*, such as regulating short-term financial capital flows in cases which the monetary policies of countries influencing them cause volatility in their exchange rates.

7) The presence of *prolonged recessionary processes* is sooner or later destructive for financial systems.

8) A fundamental feature of central bank cooperation is overseeing the relationship between the *metropolis and the host*. Using Latin American institutions as a base we must develop the *Decalogue of the Good Metropolis*. Some in America are metropolis, but all of us are hosts with extensive experience and can make an excellent contribution to international regulatory forums on what should be requested from metropolis regulators in order to preserve global financial stability. On this point, the intellectual task of elaborating a Decalogue of demands for metropolis institutions and their regulators could be effectively carried out by CEMLA.

9) The best way of guaranteeing that a financial system does not affect others in crisis is for the institutions that make it up to *supply themselves with capital and liquidity in cases of crisis*. In this regard, there are macroeconomic questions, which were mentioned yesterday, such as the prudent accumulation of reserves or the swaps of regional currencies that are fundamental factors particularly for the financial stability of emerging countries and those with less important markets.

In sum, the game of central bank cooperation is not a zero-sum game, on the contrary the results are always very positive. We must therefore interact and act according to the size of the challenges we face and not only address them when frightened by the consequences of the circumstances.

Marc-Olivier Strauss-Kahn

Global Financial Stability and Central Bank Cooperation: Lessons Learned

I'm very happy to be here both to celebrate with you CEMLA's 60th anniversary and to speak about central bank cooperation (CBC hereafter). Indeed, CEMLA is a prime example of valuable cooperation involving central banks across the region and well beyond. As we say in France, "life begins at 60". So long live CEMLA!

Yet, 60 is also an age of wisdom and we are benefiting from the lessons learned and shared by experts who have gathered for this conference. Among them, Agustín Carstens and Jaime Caruana for instance made contributions on similar topics to the recent *Financial Stability Review* (FSR) of the Bank of France, which is another good example of CBC. And I'll refer sometimes to this Bank of France FSR published in April 2012 to illustrate and support my presentation.

After so many speeches, I run the risk of being redundant. But several key ideas are worth stressing as they have proved especially

Director General, Bank of France. The views expressed hereafter do not necessarily reflect those of the Bank of France.

relevant in the recent period, while Jaime's analysis covered the last 80 years. Let me start with a brief reminder of the main concepts being discussed in this panel:

- Financial stability (FS) concerns to the resilience to shocks to infrastructures, institutions and markets; I will use each of the three blocks to illustrate my points.
- 'Global' considers FS across countries to assess spillovers; but no single institution has such a global FS mandate yet, even though the IMF, together with the Financial Stability Board (FSB), is evolving toward that role.
- 'CBs', which historically have an interest in FS, are increasingly involved in it, if only for a twofold reason: monetary stability may be a necessary condition for ensuring FS, but has not been sufficient to do so; as a result, financial instability has in turn distorted monetary policy transmission channels.
- Lastly, putting one's own house in order is necessary but not sufficient in a globalized world, without referring explicitly to the rich literature about this topic. Thus, *cooperation* is welcome between and beyond CBs, whether through informal exchanges of views, aiming to achieve a level playing field or, more ambitiously, some formal policy coordination or even harmonization.

Indeed, not all CBs have a FS mandate, nor are they in charge of the whole FS realm. Thus, the leading thread of my presentation today is to illustrate: in recent times, in which areas CBs and CBC have been doing well, or not, and why; in the future, what they may do, possibly better, or should avoid doing.

Recently, What Has Worked or What Has Not, and Has CBC Contributed to This?

As is often the case, some results have been good, others bad, and in many instances the jury is still out, so that things may not look clear-cut.

Therefore I could not resist grouping my illustrations into three well-known categories: “the Good, the Bad, and the ... Fuzzy”, starring central bankers as the Good! The Good corresponds to some instances of success that can largely, even if not exclusively, be attributed to CBC. The Bad corresponds to some cases of failure, which often occurred in spite of CBC, or due to insufficient cooperation. The Fuzzy corresponds to mixed experiences, at times in areas well beyond CBC and its scope.

As regards the Good, the most cited examples in this conference are the bilateral swap agreements between CBs: with the Federal Reserve (Fed) in dollars since 2008, and between six CBs (Bank of Canada, Bank of England, Bank of Japan, European Central Bank, Federal Reserve, and Swiss National Bank) in any of their currencies since 2011. Thus, there is no need to elaborate on them.

Another interesting, although less cited example is the proven resilience of infrastructures. This success has been built up over several years thanks to the work of the Committee on Payment and Settlements Systems, which brings together central bankers at the Bank for International Settlements (BIS). Despite extreme conditions, with liquidity dry-ups, high activity volumes, and the default of major participants, payment systems have been particularly resilient because of new liquidity management mechanisms and the increasing role of central counterparties. Thus, it is no surprise that, on the basis of the lessons learned, the Group of 20 decided that all standardized OTC derivative contracts should be cleared through central counterparties by end-2012.

The reasons for success are easy to identify, even if they are less easy to replicate.

- As payment systems are the plumbing and liquidity the oiling for monetary policy, CBs have the incentive to act and the expertise to do so. They have set up a long-standing cross-border cooperation based on a well-established framework since the Lamfalussy report in 1990. Last, they have the capacity to deliver and are the only oversight authorities.

- To generalize, CBs know and trust each other well: on a long-term basis, they meet regularly and discreetly under the aegis of the BIS to establish a common language, a shared framework, best practices and standards or even similar objectives depending on the domain.

Now, the Bad, with cases of failure, often despite CBC or due to insufficient CBC. Over the last years, financial markets have provided examples of severe imperfections or even failures, including in those deemed to be the most liquid, such as the interbank and more recently the sovereign debt markets, notably for the euro area peripherals, with fragmentation risks for the conduct of monetary policy.

For instance the unsecured part of the money market experienced a liquidity dry-up around the time of the Lehman failure. In the euro area, unsecured transactions dropped 50% between early 2007 and 2010. In spite of liquidity provision, the main problem has become the lack of trust among players, largely because of asymmetric or insufficient information. To what extent does all this call CBC into question?

- True, there was a lack of both awareness and peer pressure: early warnings in BIS reports or CGFS discussions prior to 2007 were missed since the prevalent motto was at the time: "so far, so good".

- True also, even those who cried wolf (too early to be believed or too late to act?) rarely thought about two things: the basic causes and the channels of the financial crisis. First, beyond the lack of information about or understanding of subprimes, cdos, conduits, etc., several basic causes of the crisis were, for many experts, the usual suspects: excessive risk-taking as well as insufficient capital and control. Second, unexpected propagation channels led to the freezing of the very heart of the system.

- Yet, the market collapse was also driven by a sudden shift in private agents' risk perception (e.g., about the quality of assets underlying CDOs) and a severe increase in uncertainty about who was holding which assets; I will later address the feedback loop between banking and sovereign risks.

- Moreover, these causes were rooted in, and compounded by, market practices, such as underwriting standards, inaccuracy of risk measurements, poor management tools, private incentives biased toward procyclical risk taking: compensation policy, the role of ratings, etcetera.

So even if CBs have remained trustworthy and cooperated to provide liquidity, the latter was hoarded. Too much faith had been placed in regulation, disclosure and market discipline. Doubts emerged about all counterparties.

This leads us to the fuzzy part of what has worked or what has not, focusing this time on institutions and, hence, especially on regulation and supervision. Admittedly, some may argue that certain features of Basel II, which were prepared among CBs and introduced in anticipation of deadlines, might have contributed to the crisis or, at least, did not prevent it. Others may answer that Basel II had not really started to be implemented in some places, notably in the United States (USA) where a different regulatory approach had been maintained. But even if CBs and supervisors were involved, they were not the only players by far. By contrast, some progress is praiseworthy such a large-scale reform like Basel III.

Yet, problems persist. Beyond the mixed results of stress tests, which were hardly coordinated across the world, problems largely stem from the uneven pace of financial regulation reforms and some of their unintended effects. For instance, in order to achieve a level playing field a synchronized move toward new standards is necessary. Yet the Dodd-Frank Act has been delayed by political or private criticisms and time-consuming preparatory reports. In addition, not all countries have proposed a legal transposition of Basel III as Europe has done with the CRD IV draft Directive, effective as of 2015.

I have limited time today to deal with unintended effects, such as deleveraging, but here are a few points. Banks had to deleverage, including in Europe, which has affected their branches or subsidiaries in emerging market economies (EMEs); yet, the outcome has been different across EMEs: for instance, in Asia, funding substitutes have worked better than in Latin America. Thus, the outcome does not seem to depend only on developments in advanced markets. For sure, further studies would be required, as is the case when assessing sudden stops in capital flows and the repercussions of quantitative easing (QE) on neighbours. More generally, in times of crisis, cooperation may also be needed with regard to monetary stability and the impact of monetary policies on exchange rates so as to reduce the fear of currency wars.

Looking Forward, What Could CBs, and hence CBC, Do (Better) or What Should They Avoid Doing?

The choice may not be easy, as is the case in the well-known joke where the devil proposes only two doors to enter hell with the following signs: “damned if you do” and “damned if you do not” … Thus, let me rephrase this choice in a slightly less pessimistic way. CBs may first be praised, but eventually they will be damned if they do *too much*, whether they cooperate or not, as they cannot become *universal problem solvers*. Yet, they will also be damned if they do and cooperate *too little*, or at least they will become scapegoats, if they are viewed as doing so. Taking account of the limited mandate of central banks, it is thus necessary but not easy to find a middle way between these two fates. Admittedly, this second part will focus more on CBs’ action than their cooperation. Yet if CBs do not act appropriately, they can cooperate even less adequately, either among themselves or with other counterparties, such as sovereigns and regulators. Indeed, questions surrounding the scope of their actions currently appear to dominate the debate.

On the one hand, CBs –and hence CBC– cannot become the universal problem solver or weapon. Indeed, CBs are rather the final rampart with a limited, though flexible, artillery. Their primary focus is the conduct of monetary policy even though recent experience has increased their FS mandate. Thus, given the persistent financial crisis and having reached the zero lower bound, they have had to resort to unconventional measures and have in parallel adjusted their operational framework. This is true even though there are differences in unconventional policy in the euro area and that implemented in the USA and the United Kingdom: the three year very long-term refinancing operation (VLTRO) of the ECB focuses on restoring the market functioning via banks, while QE aims at affecting directly long-term rates and macrostability.

Yet, the CBs' medication is no panacea and raises several risks of side-effects. First, the main CBs' balance sheets have ballooned in parallel (catching up over the last few years with a process that had started in the 1990s for the Bank of Japan). This raises potential concerns about exposure to credit risk. For instance, the Fed and the Bank of England held respectively close to 20% of their domestic public tradable debts. Going beyond supporting sovereign leveraging, CBs have tried to offset private deleveraging. True, accounting safeguards and haircuts, as applied within the Eurosystem, should prevent substantial losses which could jeopardize their financial autonomy; but the mere risk of losses might be sufficient to imperil their credibility. In addition although there is a lot of potential collateral, the higher the risk, the higher the haircut and the lower the extra room for manoeuvre for the efficiency of monetary policy.

Second, the boundary between monetary and fiscal policy has been blurred, as CBs affect the allocation of resources between debtors and creditors. In particular, outright purchases are often viewed as *quasi-fiscal* both on the asset side (due to the risks entailed) and on the liability side (as they help finance sovereigns). This leads me back to the sovereign/bank nexus and further risks.

There are indeed signs of generalized *financial repression*, i.e., policies aiming at curbing interest rates and enhancing the domestic bias of financial institutions to hold domestic public debt. As in the past, it is tempting again to limit sovereign spreads and eventually deflate public debt as criticised for instance by C. Reinhart, including in her recent Bank of France FSR contribution.

This enhances the risk of *fiscal dominance* over CBs, threatening the efficiency of monetary transmission channels and the credibility of the price stability goal. If the latter risk became more concrete, CBs would be seen to be under pressure by governments to monetize their debts, which would reduce the need for structural reforms and postpone the consolidation of public finances.

Moreover, a potential related risk is looming, which I will call *financial dominance*. In most countries, governments and parliaments are closely involved in organizing and managing macroprudential surveillance or supervision. While monetary stability is well-defined, often quantified and attributed exclusively to CBs, FS is not and involves many players. There are surely good reasons for this. When formulating and implementing their macroprudential strategy, authorities face complex trade-offs between the efficiency and stability of the financial system. All this compounds risks of interference or dominance.

Thus, as a whole, the main risk becomes one of confusion, given the possibility of dilution of objectives and the diversity of stakeholders. The lender of last resort function of CBs to save illiquid banks should not be confused with the bailing out of insolvent sovereigns. And this is true whether in a monetary union or not, as inflation expectations and, hence, the level of nominal interest rates should eventually increase everywhere in the event of a risk of dominance over CBs.

On the other hand, CBs may be damned also if they do and cooperate too little, or are viewed as doing so. Therefore, the main question becomes: which middle way can CBs help to promote, not exclusively among themselves, but also via their dialogue and cooperation with others? Returning to the sovereign/bank nexus, I will distinguish between the global and EMU levels.

At the global level, a lot has already been said and I will concentrate on a few recommendations regarding the need for dialogue between CBs, on the one hand, and sovereigns or regulators, on the other.

- CBS may call for fiscal consolidation to restore the relative risk-free nature of sovereign assets, while accompanying its implementation; admittedly, monetary accommodation may be announced and implemented in different ways: in short, accommodation may be offered mainly ex ante to facilitate governments' forthcoming efforts (if any), as is the case with the Bank of England carrot; or it may be awarded ex post, like in the case of the ECB stick which is perceived as awaiting firm commitments by governments before loosening its monetary stance. Yet in both cases and even in the USA, CBS have become more vocal about fiscal discipline.

- In the longer term, CBs should call for a review of the weight of sovereign risk in capital requirements; raising these weights though will require a transition period so as to limit counterproductive effects at the current juncture.

- CBs may also go further via their role in a number of regulatory boards (BCBS, FSB, ESRB, etc.) with a view to promoting a degree of coordination between macroprudential policies, as the latter are implemented in each country and may spillover to neighbors. So-called *macroprudential* measures, however, should not turn out to be disguised tools for financial repression and protectionism, a concern voiced by C. Reinhart (Bank of France, FSR, page 45).

- Moreover CBS may try and limit some unintended consequences of regulation such as with the LCR (liquidity capital ratio). Markets have already integrated the expected introduction of the LCR in the medium term and are self-imposing de facto such standards earlier than planned by regulators. This ratio may interact with monetary policy and calls for further refinements.

As regards EMU, the previous panel has already presented its specifics. While the solution calls for fiscal, and later, political union, which go well beyond the CBs' sphere of competence, let me simply recall, before concluding, that CBs may help to:

- Move toward a banking union, a resolution system and a deposit guarantee fund.

- Organize supervision at the European level, based on the same principles as those of monetary policy: centralization of decision-making and decentralization of its implementation.

- Last, limit the risk of contagion or bank runs in the euro area through the accurate assessment and cleaning-up of banks' balance sheets.

I will conclude with a few remarks. CBC may help global FS but cannot be a substitute for cooperation of CBs with governments and regulators and among the latter. In Europe particularly, some choices and quantum leaps are political rather than economic or technical. Thus, between the risk of doing too much and that of being perceived to be doing too little, the road for CBs is narrow and bumpy.

This is particularly the case as we all know that the devil is not the one pushing CBs from behind to choose which door to enter hell, but the one in front of them on Earth …as usual hidden in the details of implementation!

Roundtable
Where is Central Bank Cooperation Headed?

Guillermo Ortiz

Presentation

Firstly, I would like to thank CEMLA for the invitation to chair this panel. It is a high quality panel of old friends and the topic is "Central Bank Cooperation."

Jaime Caruana, who is present here, perhaps remembers a seminar precisely on the topic of central bank cooperation organized by the BIS in 2005. Considering that it took place in the time before the crisis, I began to review the topics covered at the seminar. Obviously, the concept of central bank cooperation has many levels.

For a long time technical cooperation, exchange of information and, I would say, exchange of experiences –made much easier by the BIS and regional bodies– have been a fundamental instrument in communication and cooperation among central banks. I believe that this level has worked very well, it has not only improved but also widened, and important cooperation initiatives have emerged from it. For instance, the subject of cooperation among Asian central banks at the BIS led to the development of the Asian bond market. This was precisely one

Chairman of the Executive Board of the Grupo Financiero Banorte.

initiative that resulted from such cooperation plans. An attempt was also made in Latin America, but unfortunately it did not progress.

There is also central bank governance group at the BIS, which I had the honor to chair several years ago, from where various cooperation initiatives have emerged. There is therefore a long history of central bank cooperation, but as I insist, on different levels. I have already mentioned the first of these, technical cooperation. Another characteristic of central bankers is that –although I am now a commercial banker, I sometimes wear the shirt of a central banker– we like to keep a relatively low profile; more accurately to hold private meetings on monetary policy. Cooperation bodies have also been key to facilitating this type of exchanges, which are crucial for developing monetary policy in the current environment.

There used to be a model under which –that of *putting your house in order*– if everyone has their house in order then there is no need for cooperation. In fact, Tommaso Padoa-Schioppa gave a brilliant speech at the 2005 BIS conference distinguishing between integration and cooperation. How is it that in a world more integrated in terms of flows, in terms of trade, etc., these obstacles, above all in the sphere of government, to greater cooperation were getting larger? On some levels this is also the case of central banks. However, more recently, as a result of the crisis, the need for central bank cooperation –above all for understanding the causes of the crisis– and the role of the central bank in offering solutions on matters of liquidity, banking support, etc., on matters of financial stability –which is another dimension of international cooperation– have been fundamental.

Mario Bergara

Economic Education, Financial Intelligence and Central Bank Cooperation: The Answer to Current Challenges

Central bank cooperation has proved to be very beneficial during the last four or five years. These have been unusual times due to different circumstances, including most importantly global processes increasingly and similarly affecting the majority of countries in the region, but that also affect developed and large emerging nations differently. This environment makes one think and discuss without hoping to achieve a single manual because we all have to understand what is happening and what the other is doing, knowing that the other does not necessarily have to take the same route as one has decided to take. The challenges of these times place central banks and international bodies in leading roles in world affairs.

Economic policy frameworks in countries in the region and emerging nations have generally progressed toward a certain degree of homogenization. Most Latin American countries are open economies because,

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President of the Central Bank of Uruguay.

given their size, openness is their only alternative. The challenges of economic policy in general, and central bank policies in particular, are becoming more and more similar. CEMLA is an environment that facilitates, encourages and forces the exchange of experiences, and has proved to be undoubtedly beneficial in the context of cooperation and common understanding of global phenomenon and their repercussions on our respective economies.

The intention is not and should not be to seek a single manual. What is important is to understand what is happening and identify surviving aspects from old manuals, because not everything from the past is useless and not everything should be ignored.

Our reading of current events is undoubtedly determined by the fact that they originated from different regions and that we are facing new questions of unusual dimensions with significant global repercussions. This reality forces us to reach a common understanding of what is happening so each one of us can act according to our particular situation.

There are therefore many areas for cooperation. The road to follow is to go forward with a common vision of international economic-financial processes and their effects on emerging economies from our point of view; boosting the exchange of policy responses and fostering creativity and collective joint capacities.

There is renewed interest in the areas of system risks, stemming from the international financial crisis, in secure network topics, at national, regional and international levels, and the issues of financial stability from micro and macroprudential points of view.

I believe that such topics were dealt with in depth by my colleagues, after all central bank members have a vocation for discussing policy matters directly. For this reason, and in order not to make what I have said redundant, I want to add some other aspects which also concern polices.

I would first like to refer to processes of financial inclusion and education. One thing that is clear in this world is that if central banks do not lead the way on financial education processes in our countries, no one else will. This does not mean to say that only central banks can do it, but we are really interested in people understanding economic processes and the way this helps us to explain why we do what we do. This topic obviously needs encouraging, and actually is being –there have been good experiences in several Latin American countries, including Mexico, Colombia and Argentina–, showing that once central banks take up aspects of education and financial culture they begin to achieve results, even accessing areas of formal education in our countries.

In second place I am going to talk about financial intelligence tasks, globalization and financial flows, where we touch on the growing importance we must give to preventing asset laundering and the financing of terrorism, and even the proliferation of weapons of mass destruction. The topic of financial intelligence is becoming increasingly complex and its relevance for central banks is obvious. Central banks have the skills to contribute to such important processes precisely in order to provide stability and credibility to our financial systems.

In third place is the strengthening of multilateral bodies, both those involved in development financing as well as those more focused on providing liquidity, and, of course, the exchanging of academic research experiences, such as in the case of CEMLA.

Financial Inclusion and Education: An Opportunity and a Challenge

Encouraging access and education in economic and financial areas are two faces of the same coin. Ensuring that access to financial services becomes more and more massive, especially so it reaches those sectors with more difficulties for obtaining such services –low income families, small, medium and micro firms– must also be accompanied by education so that the increased use of financial instruments does not turn into consumerist attitudes or behaviors that are inappropriate in terms of generating insolvency risks.

Financial deepening is associated to greater economic and social development. Facilitating transactions and promoting the efficiency of financial instruments and the payments system is clearly in the nature of central bank obligations. Improving access to financial services and products is connected to the other side of the coin, education.

Financial education has to be included as a fundamental ingredient of greater financial inclusion that should also be seen as social inclusion. Financial inclusion implies infrastructures, instruments and incentives. It implies deploying infrastructures for using services, generating new instruments more in line with the needs of different sectors of the population and of firms. It also means that governments and central banks must have structures and incentives that are precisely aimed at providing greater access to, for instance, available payments networks and the use of electronic instruments.

Financial Market Transparency

Fostering financial market transparency is crucial, precisely so that people feel more confident and safe when they start using the financial system. We must combat the general culture of opacity in our countries. On many occasions central banks are also the authorities that enforce more general regulations for protecting the rights of the most vulnerable sectors, the rights of financial system users and customers, or for fostering and protecting competition. Nonetheless, I insist that the essential counterparty or complement to these different aspects of this topic is financial education.

I believe CEMLA is an ideal place for having instruments, mechanisms, games, videos and everything you can imagine as a platform. Economic and financial education, therefore, to improve the understanding of all economic aspects, to create greater financial culture and encourage proper behavior, and to contribute to making people feel more confident using financial systems because, unfortunately, in the past they were often synonyms of suffering and crisis.

As for cooperation, we must increasingly make more explicit agreements with supervisors, regulators, central banks and host and home financial institutions, as well as those associated to financial intelligence.

There is a greater demand in the world for the prevention and control of money laundering and the financing of terrorism. There is still much to do in this area, working to comply with the recommendations of the Financial Action Task Force (FATF), which evaluates the Financial Action Task Force of South America (GAFISUD) in the field of Latin American countries, and the Egmont Group, which gathers together financial intelligence offices, many of which are located at central banks. This area also represents opportunities for cooperation, exchange of information and discussion on improving the institutionalism and development of concrete actions on topics of increasing importance, such as combating asset laundering and the financing of terrorism. There are figures showing that most Latin American countries have a lot to do in this area.

Strengthening Regional Cooperation Bodies

It is important to bolster regional cooperation bodies in order to support financial stability in our countries. In the same way as countries taking part in broader forums, such as the G20, it is important that countries belonging to CEMLA participate jointly in multilateral bodies, associated to either development financing or attending liquidity and balance of payments problems, in order to ensure the representation of smaller emerging nations and to contribute to the development of regional institutions.

The CAF is one good example, and the FLAR is another. The fact that the membership structure of these bodies does not just include donor countries and the fact that they do not have a history of being unreliable helps to maintain a simple corporate governance, where we can all be trusted. They are also bodies that actually help us have more available options when we need short term financial assistance or funding for infrastructure and social development.

I therefore believe that strengthening areas such as the CAF and the FLAR, which besides providing financing are also academic institutions and forums for exchanging experiences, is part of the coordination tasks for our countries, as is promoting economic and financial research tasks in regional bodies.

The recent steps taken by CEMLA in matters of research are very welcome because they enable all of us to improve our understanding of the international processes affecting us. They also provide the possibility for more in depth analysis of the monetary policy responses each of us is implementing or coordinating, allowing more ideas and more alternatives to be generated for all the decisions we at central banks have to make.

Rodrigo Bolaños Zamora

Where Is Central Bank Cooperation Headed?

I thank and congratulate the Center for Latin American Monetary Studies (CEMLA) for all the help it has given to the central banks of Latin America during its 60 years of existence and, particularly, as the information presented yesterday by CEMLA's General Director Mr. Javier Guzmán showed, to the central banks of smaller countries. Congratulations!

I would like to focus my comments on some future technical assistance topics of particular relevance to the central banks of small open economies such as those in Central America, based mainly on the viewpoint from Costa Rica, but with inputs from our participation at the Central American Monetary Council (CMCA, as in Spanish). The Council together with CEMLA and other bodies such as the Latin American Reserve Fund (FLAR, as in Spanish), the International Monetary Fund (IMF), the Central America, Panama and the Dominican Republic

President of Central Bank of Costa Rica and president of the Central American Monetary Council.

Technical Assistance Center (CAPTAC-DR), the World Bank, the Inter-American Development Bank (IADB) and the central banks of Mexico, Colombia, Chile, Peru, Spain, the United States and Germany, have taught us a lot of what we have managed to learn. In fact, the Central Bank of Costa Rica was founded in 1950 as one of several banks created with the significant contributions of Herman Max, a renowned official from the Central Bank of Chile.

A closer look at the members of the Central American Monetary Council reveals several characteristics that help define the type of technical assistance and cooperation we might need in the future.

Just as in almost all, or all, central banks around the world, ours face the challenges and opportunities of globalization, the challenges of attaining and maintaining low inflation and more robust and stable financial systems. They must also preserve or, when necessary, increase their independence, while maintaining the highest degree of coordination between their policies and fiscal and trade policies, as well as that of financial regulation and oversight. These common internal considerations mean central banks also share the need to look for greater coordination with other banks, especially from countries with which our economies have broad interrelations of business and capital flows. We must also coordinate and discuss our policies with important international bodies, and participate in different forums that help us better understand what more influential countries are doing or what could be happening in their economies and central banks.

Under this context, our central banks act with somewhat different characteristics or restrictions than those of larger or more developed countries, determining where it might be more valuable to seek and obtain assistance and cooperation from other central banks, either directly or through bodies such as CEMLA.

As mentioned yesterday, economic research is fundamental for improving the design, formulation and implementation of economic policies. The shortage of economies of scale or the lack of resources in small, low or middle income countries' central banks means that we depend more on external support. For this reason, the economic research international organizations carry out is very important for our countries. In particular, but not exclusively, the IMF is one body that can focus and make studies for our region, and occasionally for individual countries, which go beyond policy documents and evaluating our economies. The forums CEMLA provides for our researchers to be able to polish their works and submit them for comment and criticism are very important, and it is extremely encouraging for us that strengthening these areas is included in the Strategic Plan the institution is implementing. However, I would like to emphasize here that this is one of the areas where human resources from outside the region might be highly advantageous.

We would be extremely happy if the very valuable additional human resources that CEMLA is channeling toward resuming research took into consideration this particular demand or need of our CMCA member central banks, be it in joint works with the Council or with one or several of our central banks' research departments.

Considering these and other characteristics of our economies, not only helps us define some of the particular topics on which research might be more valuable, but also helps us define where cooperation with CEMLA and other central banks and organizations would be extremely useful.

Another outstanding characteristic is the lack of development of some key markets for conducting economic policy in general, and monetary and financial policy in particular. Some countries are more advanced than others, but evidence suggests that, in general, all those of Central America and the Dominican Republic still have a lot to do in such markets.

Countries of the subregion also have central banks that have returned to placing high priority, not exclusive, but the highest level, on low inflation. For those with a national currency, and even El Salvador which dollarized, it is crucial to have better markets in different services in order to maintain low inflation.

Banking services markets are relatively the most developed, but liquidity, government debt, currency, securities and capital markets are only in their early stages. For instance, for those of us who are progressing toward inflation targeting regimes or those who are already there, improved and more efficient liquidity, exchange and public debt markets are fundamental. Moreover, it is not only necessary to improve them within the environment of each country because the presence of financial groups with activities in several countries of the subregion means that developing these markets requires the substantial coordination of plans and policies among central banks and supervisors.

The CMCA has performed, and will continue to perform, a fundamental role in these efforts, but we require additional cooperation to that which has already been provided by the central banks of more developed markets and bodies that have studied and advised other regions on such tasks.

There are two other important areas for cooperation among CMCA member central banks.

First are the forums for exchanging experiences and analyzing the international and regional economic situation provided by CEMLA, the IMF, the IADB, and the World Bank, and more recently the Bank for International Settlements (BIS). The latter is recent because CMCA central banks have finally made approaches to the BIS, which has constantly been inviting them to. Such forums are extremely valuable and the intention to continue them is encouraging.

The second issue is related to the possibilities of shielding against the crisis. Obviously, there is the accumulation of reserves and access to the IMF. However, as has been discussed at this conference, in Latin America there has not been as much progress in regional support as in other regions, particularly Asia.

Costa Rica is a proud member of the FLAR along with the central banks of six other South American countries. Unlike the Andean Development Corporation (CAF, as in Spanish) which, as its name suggests, was founded as part of the institutions for Andean integration during the seventies, the FLAR, twin brother of the CAF, changed its name from Andean Fund to Latin American Fund. However, it has not yet been able to make its membership as Latin American as the CAF. The FLAR is a small but valuable institution with an excellent team of very efficient professionals which is not only available for supporting its members with financing to address problems of balance of payment liquidity or debt restructuring, but also provides valuable cooperation for international reserves management, as well as forums for discussing and analyzing the experience of member central banks and other relevant topics.

It would be very useful if CEMLA and other forums could discuss more systematically the advantages of broadening the role of this organization in shielding against external crises, especially for smaller countries, as a complement to other forms of protection. The FLAR has just held a very interesting discussion about its role at one of its conferences in Cartagena.

Perhaps one day my dream that all the smaller Latin American countries will be benefitting members of FLAR, and that the largest follow the example of Colombia, Peru and Venezuela (the largest members of FLAR) in supporting the smallest through this organization, allowing them to benefit from its different services and participate more actively in its forums for discussion will come true.

There are also many other important areas for future collaboration and technical assistance. In particular, on topics of macroprudential supervision and regulation, arrangements among central banks and supervisors inside and outside each country, the consequences of the regulatory changes in Basel 2.5 and 3, and the legislation applied in the world's most influential economies such as the United States and Europe, among others. These topics have already been discussed at this Conference, and they are not particular to the countries of Central America and the Dominican Republic. They are also topics on which adequate forums and cooperation already exist, and where several countries of the subregion already participate. There is hence no need to refer to them on this occasion.

Once again many thanks to CEMLA, its Board of Governors, General Director and staff, as well as those who preceded them in such positions, for their extremely valuable contribution to our tasks. May they enjoy another 60, or many more, successful years of making worthwhile contributions to Latin America and beyond.

Pilar L'Hotellerie-Fallois

Where Is Central Bank Cooperation Headed?

Firstly, I would like to thank CEMLA and Javier Guzmán, personally, and on behalf of Luis M. Linde, the Governor, and Fernando Restoy, the Deputy Governor, for inviting the Bank of Spain to participate in this conference celebrating the Center's 60th anniversary. Over the years, CEMLA has done extraordinary work in fomenting Latin America central bank cooperation, work that the Bank of Spain has been proud to actively participate in since 1965 when it joined CEMLA as a contributing member.

Over the past two days I have attended a series of interesting, high quality presentations and discussions on the topic of central bank cooperation. I do not think that it is possible to add anything new to the debate. My contribution will entail a brief comment on the tendencies of the current cooperation model which are expected to be of importance to this activity in the near future, with an emphasis on the role of international forums and institutions, such as the CEMLA, in this cooperation;

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and, secondly, I will make reference to the model of cooperation being used in Europe, where the march toward integration is a fact, and is now being widened to include the banking and financial sectors.

Current Central Bank Cooperation Model Features

As mentioned in previous panels, central bank cooperation has been a reality for decades, but what are the principle features of the current cooperation model? Its *transversality* should be pointed out, first of all, as it covers all spheres of central bank functionality, from monetary policy to financial stability, and touches on cash management, prudent supervision, statistics production, research and regulation.

An additional characteristic, which is complementary to its transversality, is the *evolutionary character* of this cooperation: its content and methods have adapted, over time, to changes in the economic and financial climate. In this respect, *significant changes in the content of the cooperation* are continually being produced. As such, even if topics related to monetary and exchange rate stability continue to play a dominant role, new areas of increasing importance have appeared which are related to financial stability, macroprudential supervision and payment systems and their functioning. Additionally, questions related to the governance of our institutions are also becoming more important.

Another characteristic of current cooperation is the *enlargement of its institutional perimeter* beyond that of the central bank. Central banks not only share common interests with other central banks, but also ever increasingly with other public institutions (ministries of finance, bank supervisors and securities and insurance regulators) due to the crisis and the growing importance of their functional role in promoting financial stability. They are also interacting ever more, but to a lesser extent, with the private sector (in regulatory processes and in the production of standards).

Likewise, central bank cooperation has become more and *more systemized and institutional* and, with this, more stable and predictable. Subsequently, international agreements which incorporate linkage elements, such as the production of standards inside international organizations, which sometimes translates into legislation, are becoming more important. Moreover, some legal documents require cooperation: for example, the regulation creating the European System of Financial Supervisors.

On the other hand, financial globalization and increasing international monetary integration have highlighted the greater efficiency of *multilateral cooperation* versus bilateral cooperation. Regional and international forums have, therefore, become more and more important as the central platforms for cooperation. The utilization of forums and international organizations make these efforts more efficient and allow for the incorporation of larger geographical areas. I would like to draw your attention to the following examples of multilateral cooperation:

- The BIS. Following Jaime Caruana's extensive contribution in his conference, the BIS has played a central role in the cooperation between central banks since its creation in 1930. It represents a before and after in the institutionalization of international cooperation in central banking, consolidating this activity through the establishment of objectives, procedures, committees and specific measures.

- The IMF is a traditional collaboration forum for Ministers of the Economy, where central banks play an essential role both in its financing and functioning, with distinct levels of representation and prominence depending on their country of origin.

- The FSB. The financial crisis has brought to light the profound economic and financial interrelations between countries. This new reality has reinforced cooperation and the construction of stronger international institutions. In turn, we have not only observed the profound reform of traditional institutions, such as the IMF, but the creation of new ones such as the G20 and Financial Stability Board (FSB), which further boosts central bank cooperation toward promoting financial stability. The FSB has created new rules of the game in regulation and supervision in close collaboration with the BIS and the Basel Committee on Banking Supervision. This atmosphere of cooperation between central banks and governments is necessary in the context of global financial markets.

I have left referring to regional agreements as forums for cooperation to last. They have created regional multilateral cooperation institutions between central banks, in parallel with global forums, with wide ranging functionality, such as the CEMLA in Latin America (1952), the Consejo Monetario Centroamericano (1964) or the SEACEN in Southeast Asia (1972). Likewise, cooperation platforms between central banks and other entities with shared or complementary competencies have been built, particularly in the area of bank supervision, such as the Association of Supervisors of Banks of the Americas (ASBA, in 1979).

The CEMLA, over its six decades of existence, has fulfilled its objective of promoting cooperation in monetary and banking matters in Latin America and the Caribbean and is currently renowned within the central banking community, not only regionally, but internationally, as a result of its strategy of promoting relations with Europe and Asia.

The Bank of Spain places great importance on its relationship with the CEMLA in the context of its firm, general commitment to Latin America and has worked hard in establishing close cooperation and ongoing dialogue with this institution. Reinforcing this relationship is a priority for us, a relationship built on our close to 50 year history as a collaborating member, and not only because of these historical ties, but, principally, because of the close economic and financial relationships which unite Spain with Latin America.

I would like to finish this part of my presentation by specifically mentioning the area of international technical cooperation (ITC), an area in which we have reached a certain level of maturity with a model based on:

- Sharing of experiences: the infrastructure has been reinforced over the last few years so that ITC translates into the sharing of national and regional experiences.

- Interpersonal/institutional relationships: the ITC is an efficient instrument to create and consolidate basic networks of personal and institutional relationships at all levels of our organizations.
- Cooperation between those responsible for cooperation: the coordination between the departments which put ITC into effect in each central bank is, in itself, important in avoiding duplication and taking advantage of synergies.
- Use of new technologies: the incorporation of technological advances into all facets of the ITC.

Europe: From Cooperation to Integration

As you are all aware, the European project is at a critical juncture. Doubts about the common currency and the institutional framework which supports it have lead to the necessity of advancing toward greater integration, or in other words, toward *more Europe*.

European Monetary Union began over a decade ago, in 1999, with the adoption of the euro as the single currency, a single monetary policy and the ECB as its central institution. This was the culmination of a process which had started in 1979 with the European Monetary System which was supposed to lead to a fundamental leap in exchange rate stabilization for its member countries, a necessary condition for Monetary Union.

As is well known, the economic and financial crisis of 2007-2008 exposed deficiencies in the framework of European construction on multiple fronts, and in particular, in that of monetary integration. Advances have been made in making up for these deficiencies over the last three years, above all in the area of macroeconomic vigilance and crisis management, with the establishment of *reinforced supervision systems* and the activation of *European financial support mechanisms for the countries in crisis*, which have, in the majority of cases, been used in the context of adjustment programmes cofinanced by the IMF.

Nevertheless, these mechanisms will be insufficient if they are not framed in a clearer long term integration project. The agreements reached by European leaders last June reflect commitment toward greater integration which, potentially, will include four fundamental areas: finance, fiscal, economic and political. The first step in carrying out a financial integration plan is the creation of a banking union, which would contain five blocs: common regulation, an integrated supervisory system, a single deposit guarantee system, a dispute resolution mechanism and public support measures. The most immediate steps will revolve around the second of these areas: the creation of an integrated banking supervisory system.

Before entering into a talk about current discussions it is important to remember that banking supervisor collaboration has a long history in the European Union starting with the creation of the *Contact Group* in 1972 as a forum to exchange information and share experiences. One fundamental milestone of this cooperation was the creation of the Committee of European Banking Supervisors (CEBS), in 2004, to primarily promote greater coherence in supervisory focus and in bettering the coordination of supervision of European banking groups.

The international financial crisis of 2007-2008 accelerated the necessity of reforming supervision in Europe and a new structure, known as the European System of Financial Supervisors, came into effect at the beginning of 2011. This framework is structured on two pillars: microprudential and macroprudential.

The microprudential pillar combines direct supervision of individual entities, which continues to be the purview of national authorities, with specific tasks in the European context for quality improvement and consistency of supervision, strengthening of cross-border groups and establishing a single set of regulations applicable to all financial institutions. Three European agencies were created to carry out these objectives, one for each sector –banking, securities markets and insurance– in which the 27 national supervisors are represented and which have been granted specific powers.

The European Banking Authority (EBA) has done important work in its almost two years of existence, among which the two stress tests and one recapitalization exercise of the most important entities in the

European Union, whose preliminary results have been recently published, are notable.

Additionally, the European Stability Risk Board (ESRB) was created and this constitutes the so-called macroprudential pillar of the European System of Financial Supervisors. The ESRB'S mission is to prevent or mitigate *systemic risks which could threaten the financial stability of the European Union.* Therefore, its structure has included all the institutions that can contribute information and relevant experience, including members of the European system of central banks, as well as both national and European supervisory authorities. The ESRB's principle tasks consist of identifying and prioritizing risks to European Union financial stability and, when these risks are considered relevant, to issue notices or recommendations directed to the relevant authorities so that they can deal with these risks.

Due to the lack of precedents in macroprudential policy, and contrary to what has occurred with the new European microprudential authorities, the ESRB does not substitute nor reinforce existing cooperation mechanisms but rather occupies a new place in the European supervisory structure. Likewise, it is worth mentioning, that the ESRB has begun functioning before the majority of the member states have fully established their national macroprudential policy frameworks.

Even though this reform to the supervisory structure of the European Union came into effect at the beginning of 2011, and represents an important advancement, the fact that the principle responsibility for this area still lies at the national level makes it insufficient in granting the necessary credibility to the institutional structure of the Monetary Union in the context of the current unprecedented crisis. This has led to starting the process of supervisory integration, which, as mentioned, constitutes one of the areas of the so-called banking union, specifically in the EMU area (although open eventually to other members of the European Union).

The European Commission will, because of this, formulate and present viable proposals for the creation of a single supervisory mechanism, which the Council should consider before the end of the year. The basic idea is to transfer certain supervisory functions to the European

Central Bank, according to what is laid out in the functional treaty of the European Union. This is currently the main working area under development.

The final proposal will have to address multiple open issues, including the following: Which countries will participate, European Union or European Monetary Union countries? Which entities will be affected, all or only the systemic ones? What roles will the national and European supervisors play? All these topics are being analyzed and it will be difficult to give more details until there is a formal proposal. What can be said is that all the European institutions (ECB, Council and Commission) and the national ones, including the Bank of Spain, are working on making the single banking supervisor a reality as soon as possible. The President of the ECB has indicated that this institution's level of involvement with the single supervisor, as has been announced, should be capable of carrying out its new tasks in a rigorous and independent manner. It should also do so in a way which is clearly separated from its functions and responsibilities for monetary policy and he also recognized that these new tasks imply a heightened level of democratic responsibility.

Closing Remarks

Cooperation has become an essential instrument for the transmission of knowledge and experiences between central banks, for interinstitutional and interpersonal cohesion and for taking advantage of synergies. We cooperate because we definitely share common interests, and above all, because we all benefit from this mutual collaboration: we are therefore part of a positive sum game.

We have to adapt to a new environment of growing economic interrelations and it will be necessary to start structures capable of dealing with the proliferation of a wide range of international cooperation activities. In this respect, I believe that cooperation will become more and more institutionalized, more multilateral and more global and with a wider institutional and topical scope.

When cooperation goes on to become integration, Europe teaches us the importance of building complete institutional frameworks; it is not possible to take half measures on the way to integration.

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CENTER FOR LATIN AMERICAN MONETARY STUDIES
Regional Association of Central Banks

On July 19 and 20, 2012, the Center for Latin American Monetary Studies (CEMLA) held the Conference on Central Bank Cooperation at the Beginning of the 21st Century to commemorate its 60th anniversary. On these days, authorities from its associate and collaborating institutions, other central banks, international organizations, and special guests, gathered at CEMLA's offices in Mexico City.

The Conference program was aimed at providing a comprehensive view: the topic of cooperation was addressed from a historical and theoretical standpoint, and, above all, from the perspective of the challenges that the recent financial crisis posed to monetary policymakers in different countries and regions. Thus, based on the vast experience in central banking of the Conference lecturers, various aspects of cooperation among central banks were widely discussed. Their presentations are compiled in this book.

CEMLA hopes that the publication of the presentations made at the Conference will be useful for central bank staff, researchers and all those interested in this field and to contribute to the further discussion and development of these topics.

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