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The global financial crisis, NAFTA, and challenges ahead

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I. Introduction

The bankruptcy of Lehman Brothers one year ago marked the beginning of a period of unraveling in world financial markets, with trust among financial institutions evaporating. Lending dropped precipitously after that, credit spreads widened sharply, stock markets plunged and economies everywhere stumbled. Financial institutions and hedge funds in developed economies rapidly pulled out massive amounts of money from emerging markets. International lines of credit froze, affecting trade and leading to reduced export earnings.

One year later, the prospects for the global economy seem much brighter. Both emerging and developed countries seem to be turning around, and growth is expected in the second half of the year. World trade, which collapsed with alarming speed since the onset of the crisis, is now rising again. However, there is less certainty about what shape the recovery will take and if it will be a sustained rebound. The policy focus is now shifting from rescue efforts to sustained recovery. As part of these efforts, authorities everywhere are discussing possible measures to put in place to avoid a repeat of the events of last year.

As countries around the globe discuss what to do next, the North American countries may ponder the fifteen years of their trade and investment agreement – the North American Free Trade Agreement (NAFTA) – celebrated on 1 January 2009, in a context of new challenges and strong need for cooperation. The external backdrop has changed substantially in these fifteen years. When the three countries signed their trade agreement in 1994, the world was not as

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interconnected as it is today. China was not yet a major economic and commercial influence in the world economy and global imbalances were not yet a concern. As prospects for the global economy begin to improve, the time has arrived to examine the impact of the economic crisis and chart the path ahead for the world economy post-crisis.

In light of this context of global economic transformation and to better understand the task of charting a new direction for domestic economies, this paper examines the global crisis and the challenges ahead with a focus on financial issues. It highlights the importance of increased cooperation to better respond to a new global reality of increased financial interconnectedness.

We start the paper by looking at the current financial crisis, how it started – with the U.S. as the epicenter – and spread. In the second section, we discuss the crisis' impact on Mexico and Canada's financial sectors, how they behaved differently from the United States' and why they were caught by this crisis in a position of more strength than in the past. Mexico's small but well regulated financial sector and Canada's well capitalized and strong banking system absorbed quite well the initial shock, providing insights on how to improve transparency in the financial sector, as well as supervision and regulation. Next, we look at the U.S. financial sector and the policy response to the crisis, and how a rebound seems to be in the works. In the following section we discuss the post-crisis world and how the world leaders can move forward, focusing on the G20 – a group in which the three NAFTA countries participate – and its new expanded role at the center of international economic policy making. Finally, we offer some final thoughts on some of the lessons from this crisis, as well as suggestions on what the priorities should be as the NAFTA and the world economies respond to the challenges ahead.

II. The financial crisis: the United States as the epicenter

The financial crisis that started in 2007 is in the words of Federal Reserve's Governor Daniel K. Tarullo, "an old and familiar tale of explosive growth in leverage built on assumption of ever-rising asset prices"(Tarullo, 2009c). However, it also had its unique elements, including global easy money and a savings glut that inflated a credit bubble, as well as perverse incentives and regulatory failures.

The background of the crisis

The degree of leverage in credit markets increased substantially between 2003 and 2007. The process was fuelled with the U.S. monetary easing in 2003-2004,

when the Fed's federal funds rate was cut to 1%. The low interest rate environment encouraged financial innovation and the use of leverage to improve returns, sparking an asset allocation shift into real estate and alternative assets such as hedge funds and private equity. The result was an extremely benign economic environment.

The strong and stable global economy lulled investors into a sense of false security, who began to behave as if volatility had all but disappeared. In early 2001, the average junk bond yielded around 900 basis points more than the ten-year Treasury bond. In May 2007, the spread had dropped to a 20-year low of 260 basis points (see figure 1).

During this period, Wall Street investment banks generated substantial fees by underwriting big volumes of mortgages, and the loans and high-yield bonds that funded leveraged buyouts. The share of private mortgage-backed securities issuers doubled from 2003 to 2007 (to 18.8%), according to the Fed, while the share of the government-sponsored enterprises Fannie Mae and Freddie Mac, which dominated the U.S. home mortgage debt market with a share of 52% in 2003, fell to 41.1% in 2007. Depository institutions, such as banks, thrifts and credit unions held a share of 30.9% in 2007.

Figure 1
High Yield Spreads: 2001-2008
(Basis points)

Source: ECLAC, on the basis of data from Merrill Lynch U.S. High-Yield Master II Index (H0A0).

As securitization increased, everybody appeared to win: investors acquired high-yield assets that represented claims on a diversified group of borrowers; banks earned fees for originating loans without the burden of holding them on

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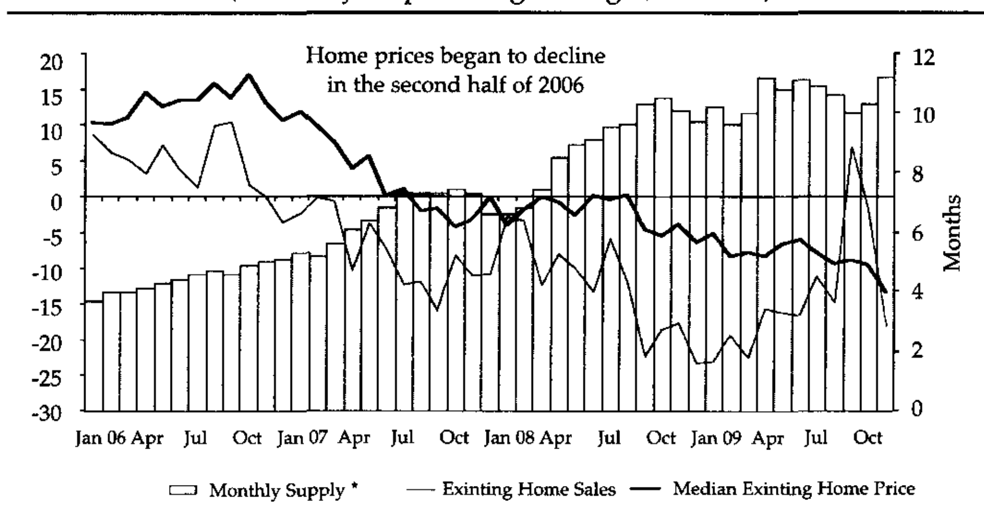
their balance-sheets, which would otherwise constrain their ability to lend to others. Securitization opened a new path to growth for banks, but also brought an increase in leverage.

The Fed tried to reduce excess leverage by raising short-term interest rates from 1% in 2003-2004 to 5.25% by mid-2006. Higher interest rates meant higher mortgage costs and a reduction in home sales, as well as in the number of home loans to underwrite, which would likely diminish leveraged buyouts. In response, investment banks loosened their credit standards, agreeing to purchase lower-quality loans. Leveraged buyout financing also followed more relaxed rules, with deals becoming riskier, and with bigger companies being bought. Lowering standards worked out for a while: in 2006, investment banks collected almost 60% more from underwriting mortgages and other loans than in 2003. All that was done under the assumption that housing prices would always continue to rise, which was the post-war reality until the second half of 2006, when prices began to decline (see figure 2). Rising home prices concealed the risk for a while, but even a flattening of home prices would bring trouble. Sub-prime and non-traditional borrowers were highly dependent on a continuation of the housing boom, and the underlying assumption was that sub-prime borrowers would be able to continue to refinance their mortgages.

Figure 2
Unites States Housing Market 2005-2008
(Year-on-year percentage change / Months)



* Inventory.

Source: ECLAC, on the basis of data from National Association of Realtors.

Financial intermediation and risk taking thus grew briskly in the relatively steady and favorable economic environment that preceded the crisis, while

asset prices hid weak underwriting standards and masked growing leverage throughout the system. Moreover, financial innovation and new financial instruments led to an increasingly opaque system and made it much more interconnected. Both the U.S. regulatory system and company risk management systems were ill-prepared to handle the quick growth of complex financial activity (see box 1).

The Regulatory System in the years preceding the Crisis

In the years preceding the crisis, many restrictions on the type and geographic scope of bank activities were relaxed. In 1999, the United States Congress passed the Gramm-Leach-Bliley Financial Services Modernization Act, which repealed part of the Glass-Steagall Act of 1933, opening up competition among banks, securities companies and insurance companies, and removing barriers between commercial and investment banks. The Glass-Steagall Act prohibited a bank from offering investment, commercial banking, and insurance services. The new law let commercial banks, security firms and insurers offer an array of financial services. It also split up the oversight of different financial conglomerates among government agencies: the Securities and Exchange Commission (SEC) would oversee the brokerage arm of a company, bank regulators would supervise its banking operation and state insurance commissioners would oversee the insurance business, with no single agency having authority over the entire company. According to Stiglitz (2009), "when repeal of Glass-Steagall brought investment and commercial banks together, the investment-bank culture came on top. There was demand for the kind of high returns that could be obtained only through high leverage and big risk-taking."

The very nature of the financial services industry as it has evolved since the 1980s contributed to the recent crisis. The last 30 years have seen waves of mergers among financial institutions within and across sectors leading to the formation of very large globally active financial conglomerates that engage in a wide range of activities that have become increasingly interconnected. It has been difficult to mitigate the risks imposed by these conglomerates and to ensure that they properly manage their own risks, since the regulatory system is fragmented and none of the regulators is tasked with assessing the risks posed across the entire financial system. In addition, the increasingly critical role played by non-regulated non-bank entities and the pace of financial innovation, with the proliferation of more sophisticated and complex financial products, were other important factors.

Source: prepared by the authors.

Defaults and delinquencies began to rise in mid-2006. Starting in 2007, major financial institutions suffered unanticipated losses related to their mortgage-related investments that weakened their balance sheets and reduced their capacity to provide credit and liquidity support to the rest of the financial system and to the overall economy. Given the level of interconnectedness of the

system problems at individual institutions caused a loss of confidence that had a systemic impact, creating problems in the U.S. and abroad. These systemic pressures were especially acute a year ago during two convoluted weeks in September, when the U.S. Treasury put the country's two mortgage giants – Fannie Mae and Freddie Mac – into conservatorship, Lehman Brothers declared bankruptcy and the American International Group (AIG), the world's largest insurance company had to be rescued by the government. In addition, the Treasury together with the FDIC extended government deposit insurance to US$ 3.4 trillion in money-market funds; temporarily banned short-selling in over 900 mostly financial stocks; and pledged to take up to US$ 700 billion of toxic mortgage-backed assets on its books. The Fed and the Treasury were determined to avoid a banking disaster of the sort that precipitated the Great Depression. In total, the U.S. government expanded its gross liabilities by more than US$ 1 trillion in the second half of 2008.

The impact on Canada and Mexico: a financial perspective

In the past two decades financial institutions became larger in size and more leveraged. They also became more global and interconnected. By providing funding across markets global financial institutions caused stocks, bond and foreign exchange markets to become globally integrated. In this new environment, the crisis that started with sub-prime mortgages in the U.S. eventually spread to other countries and to emerging markets.

In the following sections we will focus on the impact of the crisis from a financial perspective, highlighting Canada's robust banking sector and the newfound resilience of Mexico's and Latin America and the Caribbean's financial sectors. As countries around the world chart a new path for the world post-crisis, the reasons for this robustness and resilience become important lessons for the path ahead.[1]

[1] It is important to note that the more significant impact of the crisis on Canada, Mexico and the Latin America and the Caribbean (LAC) has been through trade. World trade plummeted faster as a result of the recent crisis than during the Great Depression. The value of global trade shrank by 37% between July 2008 and May 2009. The drop in the volume of international trade for 2009 overall is expected to be close to 10%. With respect to the Latin America and Caribbean region, projections for 2009 show year-on-year drops of 29% in the prices of the region's export commodities and 25% in export values. The downturn in LAC regional trade is also unprecedented in recent history. A comparable drop in volume and prices has not occurred in 70 years (1937-1939) in the case of exports, and in 27 years (1982) in the case of imports (ECLAC, 2009c). However, as the world economy shows signs of a rebound, world trade is also showing signs of revival.

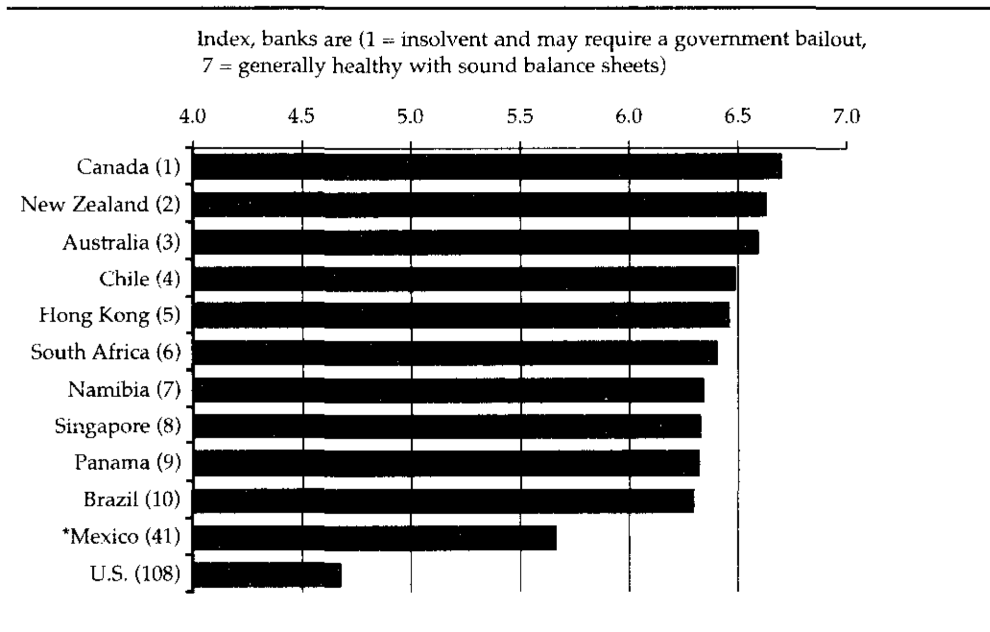
The impact on Canada

The Canadian economy proved to be quite resilient in face of the financial crisis, although, like other countries, it has not been immune to the impacts of the global recession. This resilience is attributed to its robust overall macroeconomic environment at the onset of the crisis, a national federally charged banking system that accounts for more than half of all financial assets, its regulatory regime, and an overall culture of financial conservatism.

Canada entered the financial crisis from an enviable position of strength. On the fiscal side, Canada's position is the healthiest of the G7 countries, with the lowest debt-to-GDP ratio. This solid fiscal position has also lowered Canada's reliance on foreign funding, decreasing its exposure to global financial market shocks. On the monetary side, inflation targeting and sound policies created an environment conducive to stable banks.

One of the strengths of Canada's economy lies on the soundness of its banking system, which is characterized by high capital adequacy ratios, low leverage ratios and strong prudential regulation and supervision (see figure 3).

Figure 3
Soundness of Banks



Note: Rankings are shown in parenthesis. The index includes 133 countries.

Source: World Economic Forum, The Global Competitiveness Report 2009-2010.

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Banks in Canada represent about 60% of total financial system assets, and five large banking groups – the so-called "big five"[2] – hold more than 85% of total bank assets. They are conservatively managed and highly profitable, achieving strong risk-based capital ratios, modest returns on assets and high returns on equity.

In spite of the fact that five banks dominate the banking system, the "widely held" rule for large banks limits the concentration of bank share ownership, thus limiting the scope for mergers and for foreign entry through acquisition.[3] This is probably the reason why foreign banks' presence in Canada, while increasing, still remains limited to less than 10% of bank assets – an important difference between Canada and Mexico.

Stress tests applied by the IMF indicate that the five largest banks are well capitalized and capable of withstanding a shock about one-third larger than the 1990-91 recession, involving an economic contraction, increased interest rate premium, and lower commodity prices. However, despite its soundness, the banking system faces some challenges. Credit risk remains a significant challenge and the global financial crisis has highlighted the information and liquidity risks entrenched in the structured finance products that Canadian banks have embraced in recent years. Moreover, vulnerabilities may also arise from attempts to enter highly competitive foreign markets or complex activities (IMF, Financial Stability Assessment, 2008).

However, as a result of the crisis, Canadian banks have so far gained relative weight as many of their global competitors shrank. Royal Bank of Canada, for example, is now the 12th-largest bank in the world based on market capitalization, up from 23rd in the fall of 2007. In addition, for the first two quarters of 2009 the Canadian banking system has actually topped analyst expectations, reporting manageable credit trends despite a weaker economy that has led to rising unemployment and record level of bankruptcies.

Canada's big banks have diversified earning streams, including wealth management, insurance and trading, but they also have benefited from a stricter regulatory regime than in the U.S. that kept their leverage in check during the structured-credit boom. The regulatory regime has indeed proved to be another of the economy's strength during this period of global financial turbulence. Following the bank and trust and loan company failures of the 1980s and early 1990s, Canada's regulatory framework underwent key changes focusing on the reduction of supervisory forbearance. Canada has established a highly effective and nearly unified regulatory and supervisory framework, with the Office of the Superintendent of Financial Institutions (OSFI) playing the main role in

[2] Royal Bank of Canada, TD Canada Trust, Bank of Nova Scotia, Bank of Montreal and Canadian Imperial Bank of Commerce.

[3] According to the "widely held" rule, under current Canadian law no one shareholder group can own more than 10% of the stock in a Schedule I bank (the largest banks are known as Schedule I banks under the Canadian regulatory scheme).

regulating and supervising both the federal financial institutions and the pension plans that are under federal jurisdiction.

For effective banking supervision, Canada fully complies with Basel core principles. In fact, Canada goes beyond the requirements. For instance, Canadian capital requirements are significantly more stringent than Basel minima, national targets are of 7% for Tier 1 capital and 10% for total capital, versus 4% and 8% prescribed by the Basel Accord. Furthermore, Canadian banks are subject to a maximum assets-to-total-capital multiple of 20. These rigorous capital requirements have reduced incentives for banks to take risks, contributing to the resilience of Canadian banks. Canada's overall corporate culture of fiscal conservatism has also contributed to keep leverage levels under control.

In contrast to banking regulation, the securities markets in Canada operate under provincial regulation and supervision – there are 13 regulatory authorities – each administering a separate set of securities laws and regulation. Their regulatory framework shows a high degree of implementation of the International Organization of Securities Commissions (IOSCO) Principles. In the largest provinces of Canada the regulatory authorities are independent and self-funded, accountable to the government and with sufficient resources and qualified personnel. Nevertheless, according to the IMF's assessment, moving towards a single securities regulator would bring a lot of advantages. Consolidating regulatory and oversight functions in one agency would allow policy development to be streamlined, reduce compliance costs and improve enforcement.

In reaction to the crisis, the Bank of Canada has responded aggressively by expanding its provision of liquidity through an increase in term purchase and resale agreements, by widening the range of eligible collateral, by extending the range of counterparties and by introducing new lending facilities. Moreover, the federal government took steps to improve the access of banks and other financial institutions to funding so as to keep lending to consumers, homebuyers and businesses. A program to purchase C$ 125 billion (US$ 119 billion) of insured mortgages was implemented and a temporary program to guarantee mid- to long-term debt issued by Canadian banks and other deposit-taking institutions – the Canadian Lenders Assurance Facility – was introduced. The government also provided support to the automotive sector in partnership with the U.S.

In addition, federal, provincial and local governments are working together under the umbrella of Canada's Economic Action plan, a fiscal stimulus package estimated to invest up to C$ 61 billion (US$ 58 billion) in the fiscal years of 2009 to 2011 to protect those affected by the crisis and help to strengthen the economy (see table 1). This temporary plan has been designed to provide support to the job market through lower taxes, to upgrade infrastructure, to stimulate housing construction, as well as improve access to financing under the Extraordinary Financing Framework (EFF).

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Canada's Economic Action Plan
(Millions of Canadian Dollars)

	2009-2010	2010-2011	Total
Reducing the Tax Burden for Canadians	3,020	3,180	6,200
Helping the unemployed	2,708	3,546	6,254
Building Infrastructure to Create Jobs	9,589	6,412	16,001
Creating the Economy of Tomorrow	1,871	2,164	4,035
Supporting Industries and Communities, Incluide International Partnerships to Support the Automotive Industry	11,824	2,178	14,002
Total Federal stimulus measures	29,012	17,480	46,492
Assumed provincial and territorial actions	9,691	5,045	14,736
Total Economic Action Plan Stimulus *	38,703	22,525	61,228

* Total stimulues has been revised to reflect adjustments to the acceleration of provincial/territorial inf. base funding, federal infrstructure spending, and the leves of support to the auto sector, as well as the fact that due diligence on Canada Health Infoway will not be completed in fiscal year 2009-2010. Totals may not a rounding.

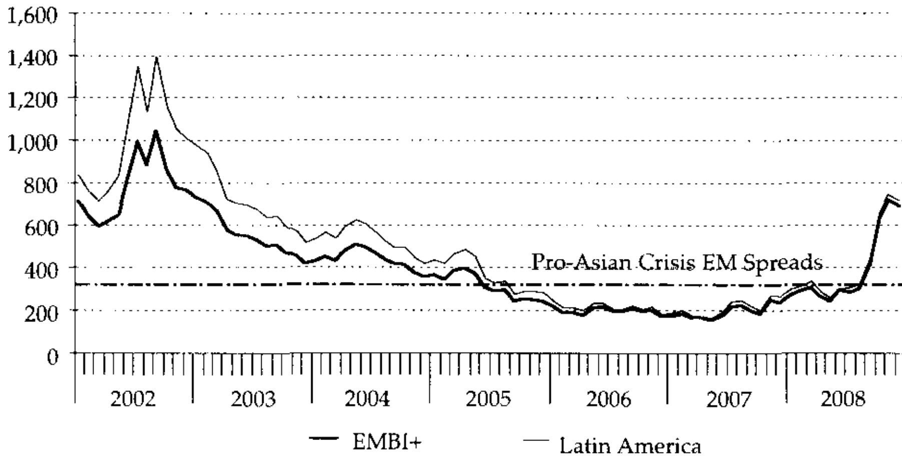
Source: Canada's Economic Action Plan – A third report to Canadians, September 2009.

In recent months, signs of economic and financial stabilization have emerged. Financial market conditions have improved significantly, in large part thanks to the extraordinary policy measures introduced. Moreover, consumer confidence, consumer spending and housing activity have improved considerably. Private-sector forecasters expect the economic recovery to gain momentum in 2010.

The newfound resilience of Mexico's and Latin America and the Caribbean's financial sectors

Latin American markets felt the effects of the crisis through a slowdown in capital inflows, large declines in stock price indexes, significant currency adjustments and an increase in debt spreads. Volatility soared, with the closely watched Chicago Board Options Exchange Volatility Index moving to an all-time high of 80.06 on 27 October 2008 and of 80.86 in 20 November (see figure 4), indicating that fear (rather than greed) was ruling the markets. The region's fastest expansion in 40 years came to a halt, as the global credit crunch made financing scarce and squeezed demand for the region's commodities.

Figure 4
Chicago Board Options Exchange Volatility Indez – VIX*

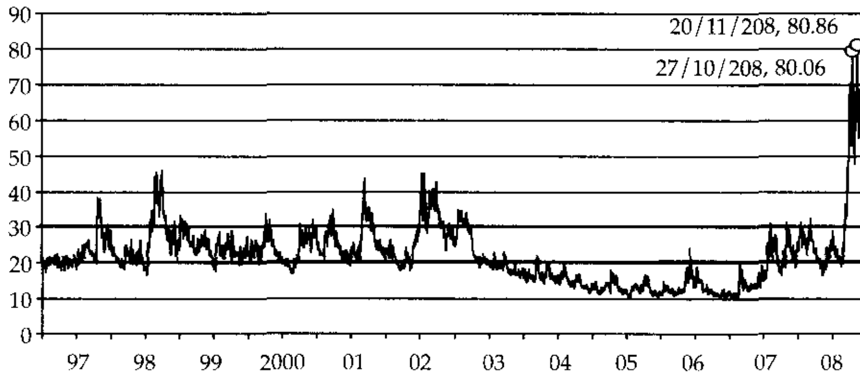


* VIX values greater than 30 are generally associated with a large amount of volatility, while values below 20 generally correspond to less stressful, even complacent, times in the markets.

Source: ECLAC, on the basis of data from the Chicago Board Options Exchange.

After reaching record lows in may 2007, emerging markets bond spreads began to widen, surpassing pre-Asian crisis levels by august 2008 (see figure 5).

Figure 5
EMBI+ spreads and latin American component
(Basis Points)

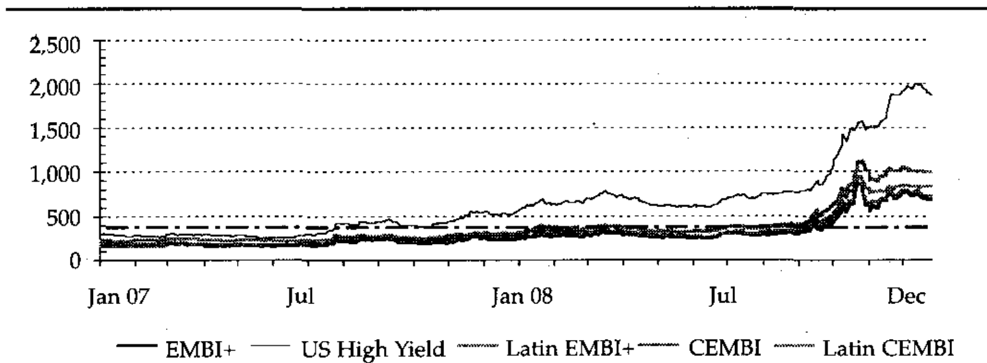


Source: ECLAC, on the basis of data from the JPMorgan, "Emerging Markets Bond Index".

The ongoing lack of liquidity and subsequent liquidation of assets led to a collapse in asset prices and a sharp widening in spreads. In October 2008, daily spreads rose to levels not seen since December 2002, making it much more difficult for governments that needed financing to get it.

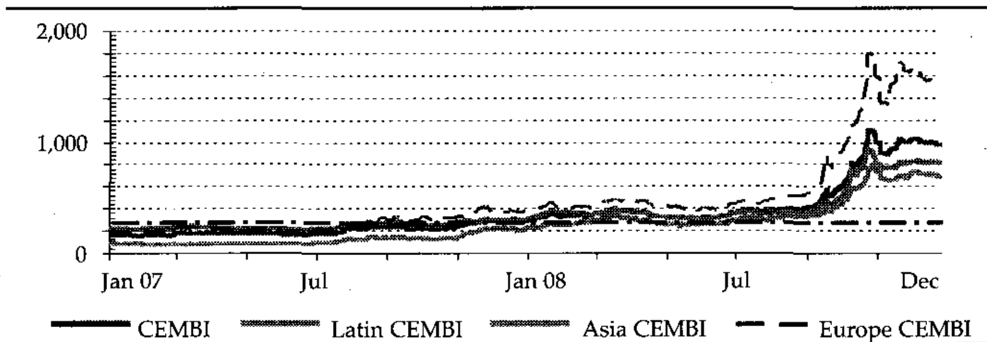
Risk premiums for Latin corporates and sovereigns increased substantially, although they remained well below U.S. junk (high-yield) bonds (see figure 6). Latin corporates faced a steep rise in foreign exchange borrowing costs, although less than firms in other emerging markets (see figure 7), which raised concerns that refinancing risks would climb.

Figure 6
High Yield vs. Emerging Market Spreads 2007 – 2008
(Basis Points)



Source: ECLAC, on the basis of data from Merrill Lynch U.S. High-Yield Master II Index (H0A0), and JPMorgan EMBI+.

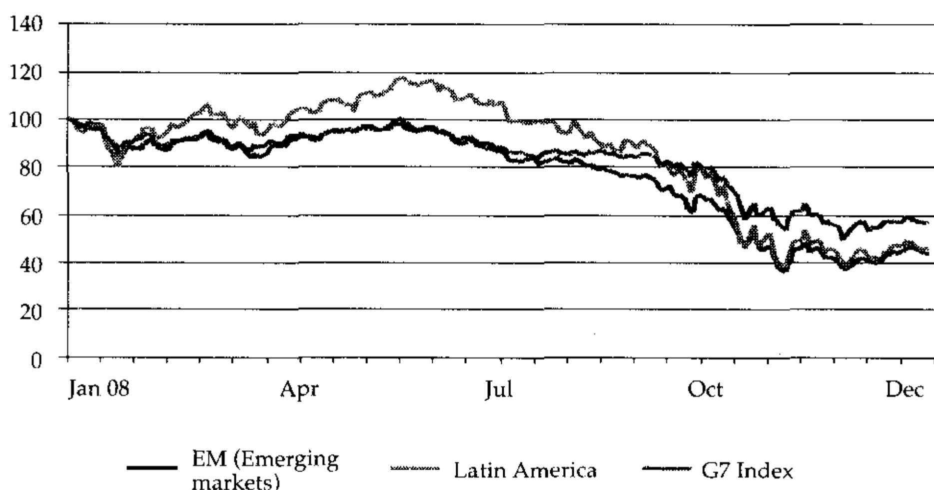
Figure 7
JPMorgan Corporate Emerging Market Bond Index Spreads 2007 – 2008
(Basis points)



Source: ECLAC, on the basis of data from Merrill Lynch U.S. High-Yield Master II Index (H0A0), and JPMorgan EMBI+.

Emerging markets' vulnerabilities at the onset of the crisis were more focused on corporates, as sovereigns had improved public debt dynamics and countries' financing needs were under control. Market performance was driven by the rapid deterioration of emerging markets bank and corporate market, as well as ongoing losses in emerging markets equities. In 2008, the Morgan Stanley Capital International (MSCI) Latin American Index lost 53%, while the Emerging Markets Index lost 56% and the G7 Index lost 43% (see figure 8). While in 2007 the Latin America component gained 47%, almost nine times as much as the MSCI-G7 index for developed markets, from mid-September to end-December 2008 stocks in Latin America did worse than stocks in developed countries, as concerns about access to credit and the adverse impact of sharp falls in commodity prices and in local currencies contributed to increased risk aversion and to outflows of capital.

Figure 8
Morgan Stanley Capital International Equity Price Index (usd) 2008*



* Prices at the end of the month.
Source: ECLAC, on the basis of data from the MSCI Equity Indices.

As risk aversion increased, investors rapidly pulled out massive amounts of money, creating problems for local markets and banks. There was an ongoing shortage of dollars (as investors liquidate assets in Latin American markets), and as currencies depreciated, inflation concerns increased despite the global slowdown. In Brazil and Mexico, central banks deployed billions of dollars of reserves to stem steep currency declines, as companies in these countries,

believing their local currencies would continue to strengthen against the U.S. dollar, took debts in dollars. Some companies also made bets using currency derivatives that led to losses in the billions of dollars. Dramatic currency swings caused heavy losses for many companies, from Mexico's cement giant Cemex SAB to the Brazilian conglomerate Grupo Votorantim. Mexico's third-largest retailer, Controladora Comercial Mexicana, declared bankruptcy after reporting huge losses related to exchange rate bets. As concerns about corporate exposure to dollar-denominated derivatives increased, yields on bonds issued by many of Brazil's and Mexico's leading companies also rose, sharply raising the cost of issuing new debt. Latin American external debt issuance came to a halt in the third quarter of 2008, totaling only US$ 690 million. In the fourth quarter of 2008, there was only one issuance by Mexico, a 10-year US$ 2 billion benchmark bond in mid-December. The cost of obtaining loans for capital expenditures, M&A and debt refinancing also rose substantially for Latin American corporates amid contagion from the U.S. financial crisis. According to bankers, a protracted trend of shortening tenors and widening spreads intensified as bank lending quickly followed the way of bonds and equity.

Latin American countries responded to the spiraling turmoil through policy measures that would mitigate the negative impact of the credit crunch. The actions taken involved a mix of financial measures and provision of liquidity (including smaller reserve requirements), and fiscal measures, including investment in infrastructure, sectoral policies (support to small- and medium sized- enterprises (SMEs), housing, agricultural sector, tourism, auto industry, etc.), support to exporters, including foreign exchange swaps, new credit lines and tariff reductions, and social and labor policies.[4] The countries in the region were able to implement such policies because over the six years previous to the crisis they built a cushion of foreign exchange reserves, by keeping exchange rates competitive, boosting exports and reducing imports. They also improved their fiscal and monetary positions, as well as financial conditions.

In the particular case of Mexico, the reform agenda pursued after the Tequila crisis of 1994-95 strengthened the financial sector. Robust macroeconomic policies and the process of bank restructuring and consolidation since 1994, as well as the strengthening of links to the U.S. economy through NAFTA, made Mexico's financial system more resilient, although not immune to future shocks. The public debt ratio declined and inflation fell from 52% in December 1995 to 4% in December 2007 (Bank of Mexico). This steady drop in inflation created a more favorable environment for economic activity and brought lower interest rates, increased financial intermediation and access to credit, a de-dollarization of credit markets, as well as lower costs of government debt servicing. Macroeconomic stability was not only a result of lower inflation, but also of the

[4] For a comprehensive list of the measures adopted by the Latin America and the Caribbean's governments in response to the international crisis since the beginning of the crisis to end-July 2009 see ECLAC (2009a).

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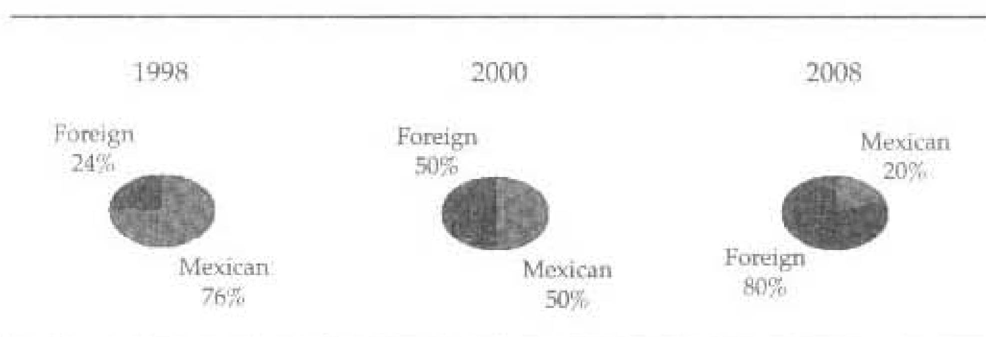
debt management strategy, which reduced vulnerability to sharp exchange rate fluctuations by shifting the government's debt structure away from instruments denominated in foreign currency.

Following a period of pronounced shrinkage, consolidation and internationalization in the past fifteen years, stability has also been restored to Mexico's banking sector. The share of assets of the five largest banks rose from 65% in 1994 to 76% in 2000. Concentration has brought benefits from economies of scale and risk diversification, but has also created institutions that may be "too big too fail." The share of foreign-controlled banks – primarily owned by U.S. and Spanish firms – in total financial assets increased from 24% in 1998 to 80% in 2008 (see figure 9). Commercial banks are the primary source of financing to the non-financial private sector.

Figure 9
Foreign Participation in Mexico's Banking System
(Percentage of bank assets under foreign control)



Source: Bank of Mexico.

Mexico's financial sector has also become more diversified in the past fifteen years, another reason for Mexico's increased financial resilience. Besides commercial banks (which dominate almost half of the financial sector assets), it now includes pension funds, development banks, investment banks, insurance companies, broker dealers, non-bank financial institutions (Sofoles), securities firms, and leasing and factoring companies (see figure 10). After the tequila crisis of 1994, commercial banks retired from the mortgage business and the Federal Mortgage Society (SHF), a state-owned development bank, took the lead. Sofoles – an industry of private mortgage originators – also expanded and started investing in the mortgage business, becoming the pioneers of the mortgage-backed securities (MBS) market.

Development banks (DBs) have grown through a process of reformation since 2000, and are now regulated and supervised as private banks, with lending taking

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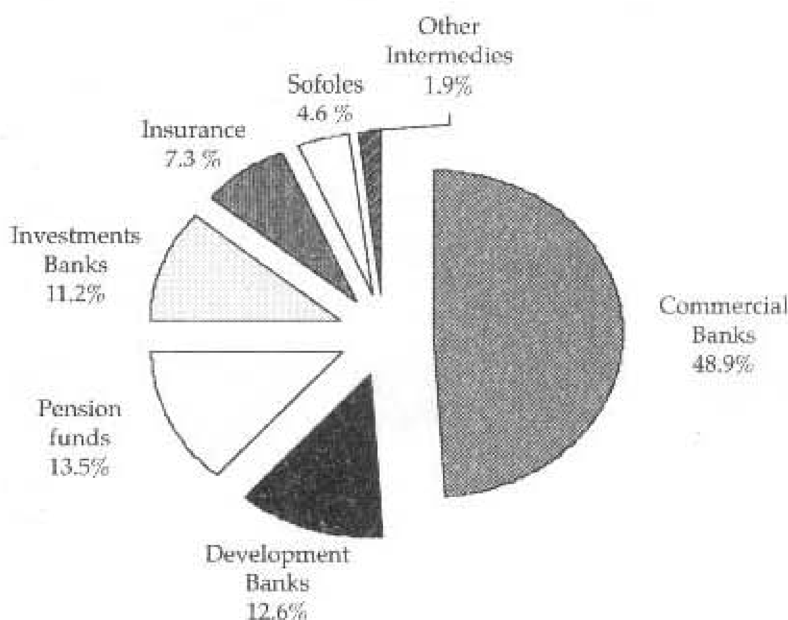
place through private financial institutions. Some DBs have evolved towards a Development Agency (DA) model. For instance, Financiera Rural and FIRA have now well-defined mandates and are forbidden from taking deposits; they fund their lending activities out of loan collections and lend at market interest rates. The insurance sector has gone through some changes as well; its regulation and supervision have been remarkably strengthened.

Figure 10
Mexico's Financial Sector Assets: 2005



Source: IMF Country Report 2006.

The main derivatives market in Mexico, the OTC (over-the-counter) market, is globally integrated and inexpensive when compared to other Latin American countries. As a result of increased competition among private managers of the defined-contribution pension funds, this market has become more contestable, with lower barriers to entry and easier migration to lower fee funds.

While the financial system has become more diversified in the past 15 years, the regulatory and supervisory environment in Mexico has also remarkably progressed, with a tightening of prudential norms and stronger inspection and enforcement powers by the National Banking and Securities Commission (CNBV). The prompt corrective action (PCA) regime was revamped and now

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meets international best practices. Moreover, since April 2006, legal changes have been introduced to deal with insolvent commercial banks. Mexico further strengthened its regulatory framework by complying with the Basel core principles and implementing the IOSCO Principles and Objectives of Securities Regulation. In the securities markets, the legal authority of the CNBV was expanded, the infrastructure was improved and transparency was increased.

IV. The U.S. financial sector: the policy response

In response to the crisis, the U.S. authorities unveiled various sorts of policy measures to unlock financial markets, restore confidence and bolster demand, in an attempt to contain the catastrophic consequences that could precipitate another Great Depression.

Containing the panic

To contain the panic that ensued after the collapse of Lehman Brothers, the U.S. Administration, in conjunction with the Congress, the Federal Reserve, the Treasury and the FDIC took several measures to shore up confidence in the financial system (see box 2). The Fed, with Treasury's support, stepped in to support AIG. The Troubled Asset Relief Program (TARP) was established. Under TARP, Treasury established the Capital Purchase Program (CPP) and injected capital into nine large financial institutions initially, and hundreds of other banking organizations subsequently. The FDIC established the Temporary Liquidity Guarantee Program (TLGP) to provide guarantees for new medium-term bank debt and non-interest bearing transaction accounts (typically used by businesses). FDIC deposit insurance was also increased to US$ 250,000 per account. The Fed reduced interest rates further and took a range of actions that dramatically expanded its liquidity support for the banking system, money market mutual funds, commercial paper issuers, and securitizations markets. Treasury agreed to extend short-term loans to General Motors and Chrysler. Collectively, the actions taken between September and December 2008 averted disaster, but sharply increased the government's commitment to the financial system (United States, 2009b).[5]

[5] For a more detailed description of the sequence of events that contributed to create havoc in financial markets in 2008 see Bustillo, I. and H. Velloso (2009) and for a comprehensive list of the measures adopted by the U.S. government since the beginning of the crisis to end-July 2009 see ECLAC (2009a).

United States Policy response to the Financial Crisis in 2008

7 March. The Fed makes US$ 200 billion available to lenders by enhancing its Term Auction Facility (TAF) auctions; another US$ 100 billion in new one-month repurchases operations (US$ 300 billion).
11 March. The FOMC authorizes increases in its existing temporary reciprocal currency arrangements (swap lines) with the European Central Bank and the Swiss National Bank. These arrangements now provide dollars in amounts of up to US$ 30 billion (from US$ 10) and US$ 6 billion (from US$ 2) to the ECB and SNB, respectively.
11 March. Term Securities Lending Facility (TSLF) – the Fed lends primary dealers in the bond market up to US$ 200 billion in Treasury securities for a term of 28 days.
14 March. The Fed makes an unprecedented loan to facilitate the sale of the investment bank Bear Stearns to JPMorgan (US$ 29 billion).
16 March. The Federal Reserve Bank of New York is authorized to create a discount-window-like lending facility for 20 primary dealers – the PDCF. The credit extended may be collateralized by a broad range of investment-grade debt securities.
20 March. TSLF collateral expanded to include bundled mortgage debt (i.e. AAA Residential MBS) and securities linked to commercial real-estate loan (i.e. AAA Commercial MBS).
30 July. The Federal Reserve announces several steps to enhance the effectiveness of its existing liquidity facilities, including the introduction of longer terms to maturity in the TAF. In association with this change, the European Central Bank and the Swiss National Bank adapted the maturity of their operations. The actions taken by the Federal Reserve included: extension of the PDCF and the TSLF through 30 January 2009 (which on 3 February 2009 were again extended through 30 October 2009); the introduction of auctions of options on US$ 50 billion of draws on the TSLF; the introduction of 84-day TAF loans as a complement to 28-day TAF loans; and an increase in the Federal Reserve's swap line with the European Central Bank to US$ 55 billion from US$ 50 billion.
7 September. The Treasury and the Federal Housing Finance Agency (FHFA) announce that the government-sponsored mortgage enterprises Fannie Mae and Freddie Mac have been placed into governmental "conservatorship."
14 September. Lehman Brothers files for bankruptcy and Merrill Lynch is taken over by Bank of America. The Fed broadens collateral for the Primary Dealer Credit Facility (PDCF) – an instrument that eases the Fed's lending terms towards primary dealers – and the Term Securities Lending Facility (TSLF), raises frequency of TSLF auctions and provides temporary exception to limitations in section 23A of the Federal Reserve Act (to expire 30 January 2009), allowing all insured depository institutions to provide liquidity to their affiliates for assets typically funded in the tri-party repo market.
16 September. The Fed agrees to lend US$ 85 billion in emergency funds to insurer American International Group Inc. (AIG) in return for effective control of the company. In return, the U.S. government received a 79.9% equity interest in AIG. The loan was made under the authority of Section 13.3 of the Federal

Reserve Act, the same broadly-worded section under which the Fed lent money to Bear Stearns and under which it created the PDCF.
17 September. Treasury sets up the Temporary Supplemental Financing program to finance the Fed.
18 September. The Fed expands and creates currency swap lines with the world's main central banks, injecting US$ 247 billion into financial markets.
19 September. The Fed grants non-recourse loans to U.S. depository institutions and bank holding companies to finance their purchases of high-quality asset-backed commercial paper (ABCP) from money market mutual funds (US$ 50 billion credit line).
19 September. The Treasury presents the Troubled Assets Relief Program (TARP), widely referred as "bailout package," which would allow the purchase of illiquid assets from financial institutions (up to US$ 700 billion).
22 September. The Fed approves the conversion of the remaining investment banks, Goldman Sachs and Morgan Stanley, to regular bank holding companies.
29 September. The Fed expands dollar liquidity facilities through 1) an increase in total TAF auctions from US$ 150 billion to US$ 300 billion, all coming in 84-day funds, 2) forward TAF auctions of an additional US$ 150 billion, with the auctions to be conducted in November 2008 for year-end funds, 3) an increase in currency swaps with foreign central banks, taking the total outstanding from US$ 290 billion to US$ 620 billion. In addition, these swap lines were extended through 30 April 2009 from 30 January 2009 previously (on 3 February 2009 they were extended to 30 October 2009).
3 October. Congress passes the Emergency Economic Stabilization Act (EESA), the amended bailout bill (up to US$ 700 billion).
7 October. The Fed begins paying interest on reserves. The Fed also announces plans to increase its Term Auction Facility (TAF) auctions, eventually bringing the amounts outstanding under the regular TAF program to US$ 600 billion. In addition, the sizes of the two forward TAF auctions to be conducted in November were increased to US$ 150 billion each, so that US$ 900 billion of TAF credit would potentially be outstanding over year end. Fed also allows a depository institution to purchase assets from affiliated money market funds.
7 October. The Fed announces the creation of a Commercial Paper Funding Facility (CPFF) – an instrument designed to help provide liquidity to term funding markets.
8 October. The Federal Reserve's Open Market Committee cuts the Federal Funds Target Rate by 50 basis points, bringing it down from 2 to 1.5 percent. This was a coordinated effort, with the European Central Bank, the Bank of England and the central banks of Canada and Sweden also reducing their primary lending rates by a half percentage point. The Chinese central bank also reduced its key interest rate and lowered bank reserve requirements.
8 October. The Fed grants an additional loan to AIG US$ 37.8 billion.
12 October. The Fed approves the acquisition of Wachovia Corporation and its subsidiary banks by Wells Fargo & Company.
14 October. The Treasury announces the TARP Capital Purchase Program (CPP), under which it will invest a part of the TARP package to obtain stakes in U.S. banks. Under the program, Treasury would purchase up to US$ 250 billion of senior preferred shares on standardized terms as described in the program's

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term sheet. At the moment of the announcement nine large financial institutions had already agreed to participate in the program, including Citigroup, Bank of America, Wells Fargo, Goldman Sachs and JPMorgan Chase.
21 October. The Fed announces the creation of the Money Market Investor Funding Facility (MMIFF) – an instrument to be applied in purchases of short-term debt from money market mutual funds (up to US$ 540 billion).
27 October. The Treasury funds 22 U.S. banks in a second round of recapitalization (US$ 38 billion).
27 October. The Fed begins buying commercial paper via CPFF.
29 October. The Fed grants a currency swap loan to four key emerging market economies, namely Brazil, Mexico, South Korea and Singapore (US$ 30 billion swap lines with each country, totaling US$ 120 billion).
29 October. The FOMC cuts the Federal Funds Target Rate by 50 basis points, to 1 percent (from 1.5 percent).
10 November. The Fed and the Treasury announce a restructuring of their financial support to AIG, increasing their help to US$ 150 billion from US$ 123 billion. The US$ 37.8 billion securities lending facility established by the New York Fed on 8 October 2008 would be repaid and terminated.
24 November. Citigroup is bailed-out. The Treasury and the Federal Deposit Insurance Corporation would provide protection against the possibility of unusually large losses on an asset pool of approximately US$ 306 billion of loans and securities backed by residential and commercial real estate and other such assets, which would remain on Citigroup's balance sheet. As a fee for this arrangement, Citigroup issued preferred shares to the Treasury and FDIC. In addition and if necessary, the Fed would stand ready to backstop residual risk in the asset pool through a non-recourse loan. Treasury would also invest US$ 20 billion in Citigroup from the TARP in exchange for preferred stock with an 8% dividend to the Treasury.
25 November. The Fed initiates a program to purchase the direct obligations of housing-related government-sponsored enterprises Fannie Mae, Freddie Mac, and the Federal Home Loan Banks, and mortgage-backed securities backed by Fannie Mae, Freddie Mac, and Ginnie Mae (up to US$ 600 billion).
25 November. The Fed announces the creation of the Term Asset-Backed Securities Loan Facility (TALF), a facility that would help market participants meet the credit needs of households and small businesses by supporting the issuance of asset-backed securities (up to US$ 200 billion).
16 December. The Federal Open Market Committee (FOMC) establishes a target range for the federal funds rate of 0 to 1/4 percent.
19 December. President George W. Bush announces an automotive rescue plan for General Motors and Chrysler LLC that made US$ 17.4 billion in federal loans available. The money came from the TARP, the US$ 700 billion fund set aside to rescue banks and investment firms in October (at the end of December the U.S. government deepens its involvement in the auto industry, committing a further US$ 6 billion to stabilize GMAC LLC, a financing company vital to the future of General Motors Corporation).

Source: I. Bustillo and H. Velloso (2009), on the basis of data from the United States Federal Reserve, Treasury Department and other sources.

While the actions taken in 2008 helped to contain the panic, in the beginning of 2009 the U.S. financial system remained extremely vulnerable. The viability of major financial institutions remained in doubt as a result of the toxic assets they still carried in their balance sheets and there were increasing concerns about credit losses related to more conventional consumer and commercial real estate loans. Credit flows to consumers and business continued to be restricted. Home prices were expected to continue their decline and foreclosures to accelerate.

The new U.S. Administration was active in the first quarter of the year trying to stabilize financial markets and respond to the economic crisis. On 10 February 2009, it announced the Financial Stability Plan (FSP), which consisted of:

— A comprehensive stress test for banks (Supervisory Capital Assessment Program): all banks with assets in excess of US$ 100 billion were required to participate in a comprehensive stress test that would determine what banks had and what they really needed.
— Capital Assistance Program (CAP): institutions that had been thoroughly tested would then have access to funds provided by the Treasury under this program.
— Financial Stability Trust: a separate entity set up to manage the government's investments in U.S. financial institutions. Any capital investments made by Treasury under the CAP will be placed in this trust.
— Public-Private Investment Fund (PPIF): containing up to US$ 500 billion in public funds (with the potential of expanding up to US$ 1 trillion); designed to provide greater means to financial institutions to cleanse their balance sheets of "legacy" assets, so that they could attract more private capital gain, and to bring private sector equity contributions to make large-scale asset purchases, allowing private sector buyers to determine the price for current troubled and previously illiquid assets.
— Consumer and Business Lending Initiative (CBLI): an expansion of the Term Asset-backed Loan Facility (TALF) up to US$ 1 trillion from US$ 200 billion to encourage new consumer/business lending. The TALF's initial reach was also expanded to include commercial mortgage-backed securities (CMBS).
— Housing Support and Foreclosure Prevention: a US$ 50 billion fund to prevent avoidable foreclosures.
— Small Business and Community Lending Initiative: intended to finance the purchase of AAA-rated Small Business Administration (SBA) loans to unfreeze secondary markets for small business loans.

Meanwhile, Congress approved the American Recovery and Reinvestment Act (ARRA) on 17 February 2009, a fiscal package with an estimated cost of US$ 787 billion (5.5% of GDP) over the fiscal years 2009-19. The package included tax provisions accounting for 38% of the stimulus in the next three years; aid –

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accounting for about 35% – to states, the unemployed, for access to health care and to students; and spending accounting for 27%, including on modernization of the electric grid, road and bridge infrastructure, public transit improvements, high-speed rail investments, health information technology, health research, investments in energy and water, upgrading government buildings, and homeland security and defense.

In March 2009, as part of the FSP and the CBLI, the Treasury announced it would jumpstart credit markets for small businesses.[6] It also announced the details of the Public–Private Investment Program (PPIP). Under the PPIP the Treasury would make targeted investments in multiple Public-Private Investment Funds (PPIFs) that would purchase legacy real estate-related assets, using up to US$ 100 billion from the TARP to generate US$ 500 billion in purchasing power to buy these assets, with the potential to expand to US$ 1 trillion over time.

In May, the results of the stress test announced in February and led by the Fed in cooperation with the Office of the Controller of the Currency and the FDIC were released. The government projected that 19 of the country's biggest banks could suffer losses up to US$ 599 billion through the end of 2010 if the economy performed worse than expected. The government's "more adverse" scenario included two-year cumulative losses of 9.1% on total loans, worse than the peak losses of the 1930s. Ten of these banks were ordered to raise a combined US$ 74.6 billion in capital to cushion themselves, less than the US$ 110 billion left in the Trouble Assets Relief program (TARP). Some investors said that the worst-case estimates of banks' total losses and capital shortfalls were smaller than they feared.

According to the released results, nine of the stress-tested banks had adequate capital, including JPMorgan Chase and Goldman Sachs, as well as several regional institutions. Among the institutions that would need to bolster their finances was Bank of America (with a US$ 34 billion shortfall), Wells Fargo (US$ 14 billion), Morgan Stanley (US$ 1.8 billion) and Citigroup (US$ 5.5 billion). Following the release of the stress test results, many of the tested banks were able to subsequently tap public capital markets. Wall Street responded positively as banks rushed to the market to offer new equity after the results of the government's stress tests. These offerings were an important step towards restoring confidence in the banks. According to the Federal Reserve, the 19 participating firms have raised more than US$ 150 billion of incremental Tier 1 common equity since January 2009, primarily through share issuances,

[6] This would be accomplished by purchasing up to US$ 15 billion in securities; temporarily raising guarantees to up to 90% in SBA's 7(a) Loan Program; temporarily eliminating certain SBA loan fees to reduce the cost of capital; requiring the 21 largest banks receiving FSP assistance to report their small business lending monthly and calling for all banks to increase small business lending; issuing guidance for an expanded carry back provision as part of the American Recovery and Reinvestment Act's tax cut package for small businesses.

exchanges, and asset sales, increasing their average Tier 1 common ratios from 5.3% at the end of 2008 to 7.5% on 30 June 2009. In addition, their subordinated debt spreads have fallen by nearly one-half since the completion of the stress test assessment, highlighting the improvement of confidence that followed the release of the results (Bernanke, 2009a).

Given the improved conditions in financial markets, the banks participating in the stress test showed interest in paying back the money they received under TARP. On June 1st, the Fed outlines the criteria to evaluate applications to redeem Treasury capital from the 19 bank holding companies (BHC) that participated in the Supervisory Capital Assessment Program (SCAP). Any BHC seeking to redeem Treasury capital must demonstrate an ability to access long-term debt markets without reliance on the FDIC's Temporary Liquidity Guarantee Program (TLGP), and must successfully demonstrate access to public equity markets. A week later the Treasury announces that 10 of the largest U.S. financial institutions participating in the CPP met the requirements for repayment established by the primary federal banking supervisors, becoming eligible to complete the repayment process if they chose to do so (Treasury would receive US$ 68 billion in repayment proceeds).

In the beginning of July, with financial and economic conditions continuing to improve, the PPIP program is scaled back; it would launch with a government investment of up to US$ 30 billion in a partnership with 9 fund managers to buy legacy securities from banks. Each fund selected by the Treasury would be required to raise an initial US$ 500 million of private capital in order to qualify for government financing.

A rebound is in the works

The pace of the U.S. economy's contraction, following the policy efforts by the government to contain the turmoil in financial markets, has started to ease and economic growth resumed in the third quarter of 2009. Manufacturing and housing, two sectors that have been hard hit in this recession and have suffered some of the largest job losses, have shown signs of strengthening in recently released data. Housing-related economic indicators have turned positive, and industrial production rose significantly in the summer, and not just for the auto industry. Growth in markets abroad, particularly emerging Asia, has also had a positive effect on economic conditions. Forecasts for U.S. GDP growth in the second half of the year have been revised higher as a result.

Aggressive government spending contributed to reduce the pace of the economic contraction and to stimulate the housing market and the car industry. However, the stimulus measures will come with costs, and the U.S. Administration recently issued revised national debt projections showing federal debt rising to US$ 9 trillion over the next decade, nearly US$ 2 trillion

more than it projected in February, which would represent 5.1% of the economy's estimated GDP for the decade. According to the Congressional Budget Office, in the fiscal year ending in September 2009 the federal budget deficit will reach US$ 1.6 trillion, or 11.2% of GDP, the highest level since the Second World War.

Testifying before Congress in September 2009, Treasury Secretary Tim Geithner said that the program that guaranteed the share price of money-market mutual funds, which held more than US$ 3 trillion in assets, could be unwound because the threat to these funds has eased. The program was created in September 2008 after the collapse of Lehman Brothers and the resulting shock to the commercial paper market. The guarantee helped prevent a devastating run on the money-market funds. The FDIC has also reported that it plans to either end or sharply limit a US$ 300 billion guarantee program for bank debt by the end of October. At the Federal Reserve, an emergency support program for commercial paper, set to expire in February 2010, is dwindling because the markets are increasingly able to fund themselves. Mr. Geithner also said that the US$ 700 billion Troubled Assets Relief Program (TARP) probably does not need another infusion of cash, as banks seemed to have recovered enough so that the toxic asset problem no longer needs massive federal treatment. Treasury's stress tests also surprised many of their critics and are now credited as a turning point for big banks in the path toward financial health.

In mid-October the Treasury department added that three programs will be shut down by the end of 2009: the Capital Purchase Program (to supply banks with liquidity), the Capital Assistance Program (never tapped), and the Targeted Investment Program (used to provide Citibank and Bank of America with an additional US$ 40 billion). The Treasury has invested US$ 205 billion into banks through the CPP; US$ 71 billion of this has been paid back so far with more repayments expected soon. Additional funds were provided to AIG, GM, and Chrysler. The Treasury said that it will now focus on restoring access to credit in the housing and the small business sectors.

The fact that the unwinding of a few government programs has already started one year after Lehman Brother's bankruptcy and subsequent unraveling of financial markets, is further evidence that the financial system is healing. It also suggests that the massive intervention by the Fed and the Treasury just less than a year ago prevented the crisis from reaching the catastrophic proportions many predicted at the time. However, while recent signs of recovery in housing and manufacturing along with a summer stock market rally suggest that the recession is receding, the labor market remains under pressure. Although the pace of job losses has slowed from the extremely high levels of early 2009, the U.S. economy has been loosing still about a quarter of a million jobs each month on average. The unemployment rate rose to 10.2% in October 2009.

The considerable pace at which the GDP increased in the third quarter of 2009 – an annual rate of 3.5% – is due in part to short-term effects such as companies replenishing inventories and government's programs. Higher

savings by households is still casting doubt on consumer spending. And even the moderate growth officials expect next year would not be enough to bring the unemployment rate down substantially. The economy has so much slack that Fed officials expect core inflation to drift lower in 2010, although they vow to keep an eye for any changes that may alter this view. The recovery is so far expected to be moderate at best, and is expected to remain vulnerable to shocks.

One of the large unknowns is how well the U.S. economy will fare once the huge fiscal and monetary stimulus supplied by the government is removed. It seems that there is a consensus among policymakers that erring by keeping an easy monetary policy for a longer period is preferable to cut the incipient rebound short by tightening too early.

V. The post-crisis world

Economic activity worldwide is expected to expand in 2010. As the world economy improves, the need to take steps to avoid a recurrence of the financial crisis of the past eighteen months should become a priority. In this scenario, two important issues arise: how the world economy can achieve a more balanced growth – with demand shifting away from public support and towards the private sector, and from trade deficit countries, such as the U.S., toward those with trade surpluses (Blanchard, 2009) – and what to do about long-term regulatory issues and the need to reform the international financial architecture.

Rebalancing growth

There is broad agreement that an ultimate shift towards a global economy more driven by emerging-market consumption is desirable. However, the danger is around the timing of this transition. If U.S. consumption relative to GDP contracts more rapidly than consumption in China and other emerging economies arises, that would leave the world for a period of time with a deficiency of demand – or protracted large government deficits. Public debt in advanced economies is expected to rise from 75% of national income in 2008 to 115% in 2014 according to IMF estimates (Cotarelli and Viñals, 2009). The pre-crisis average G20 government deficit of 1.1% of national income is expected to surge to 6.9% in 2010 (Horton, Kumar and Mauro, 2009).

Large U.S. trade deficits, though smaller than they were two years ago, remain a threat to the global economy and as the economy recovers, these imbalances threaten to reappear. The Federal Reserve Chairman Ben Bernanke called on policy makers in the U.S. and Asia to address the issue (Bernanke, 2009b). "We must avoid ever-increasing and unsustainable imbalances in trade

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and capital flows", Mr. Bernanke said. One of the concerns about the U.S. trade deficit, although not explicitly mentioned by Mr. Bernanke, is that the U.S. dollar will weaken substantially against currencies of emerging market nations. A weaker dollar would pose a risk to the U.S.: if foreign investors and central banks pull back from U.S. dollar assets, U.S. interest rates could shoot up, economic growth could slow and financial markets could become unsettled. The best prescription to preserve the confidence in the dollar, according to Bernanke, would be to keep the U.S. budget deficit low and help rebalance global growth by pushing consumers toward saving more.

Making the financial system safer

Another important step for the global economy post-crisis is to make the financial system safer. The financial crisis that has shaken up the world in the past eighteen months is the result, among other factors, of failings in financial governance at the domestic level that have also called attention to the existence of mismatches and gaps in the governance of international finance and capital at the global level. Looking back on the past 18 months, it is now clear – in light of the new financial instruments that were created and the huge increase in trading and volatility in some markets – that the total capital in the world's banking system was too small. The quality of capital was also allowed to deteriorate with the growth of hybrid instruments, which failed to provide a cushion when asset prices began to fall. Thus discussion of preventive measures to avoid similar crisis in the future – concentrating on a workable set of financial regulatory reforms that address the major regulatory failings and gaps revealed in this crisis – should become a priority, as signs of economic stabilization multiply and the sense of urgency to implement important reforms begins to recede.

According to the president of Federal Reserve of New York, the response to the crisis can come in a number of ways. "First, we can do a better job of understanding interconnectedness. This means changing how we oversee and supervise financial intermediaries. Second, we can change the system so that it is more self-dampening instead of self-reinforcing. Third, we can improve incentives (e.g. mandate automatically equity-convertible debt instruments as a form of capital). Fourth, we can increase transparency (see e.g. the beneficial effect of the Supervisory Capital Assessment Program). Fifth, we can develop additional policy instruments. For example, we might give a systemic risk regulator the authority to establish overall leverage limits or collateral and collateral haircut requirements across the system. This would give the financial authorities the ability to limit leverage and more directly influence risk premia and this might prove useful in limiting the size of future asset bubbles" (Dudley, 2009).

Rather than regulate by institution, as it is currently done, authorities need to watch the overall level of credit creation and leverage. In this context, variable

capital-asset ratios, liquidity ratios and margin requirements would be among the policy instruments innovations to take into account (Swoboda, 2009). For example, regulators could require banks to hold more capital during a boom, even if markets are pushing in the opposite direction. The rules need to evolve with the financial services themselves. That means regulating by function rather than by institution: if an institution acts like a bank, it should be treated like one. If a hedge fund or any other type of fund looks large enough to threaten the system, regulators should monitor it for potential systemic risks.

The U.S. Treasury has proposed reforms to the over-the-counter (OTC) derivatives markets. Banks that deal in derivatives would be required to meet capital standards and margin requirements to lower risks. Standardized OTC derivatives would go through regulated exchanges or regulated trade execution facilities. In the case of swaps, initiatives to promote transparency are gaining support, such as a comprehensive record keeping regime. Regulators are also seeking to collect more information in what hedge funds are doing, despite the fact that they played a secondary role in the financial crisis, and may demand that they do more to protect consumers.

For the largest and most complex firms, the Federal Reserve has plans to expand the use of "horizontal reviews, a process involving cross-firm analysis of key practices and circumstances that gives all supervisory participants a broader perspective on the state of the financial industry," with focus on particular risks or activities across a group of banking organizations. The Fed is also creating a "quantitative surveillance mechanism" that will use management information, firm-specific data analysis, and market-based indicators to identify rising pressures and imbalances that may impact multiple institutions (Tarullo, 2009c).

Indeed, Fed Chairman Ben Bernanke has recently highlighted that the Supervisory Capital Assessment Program (stress test) of the past spring was a horizontal review that was conducted differently from the ones in the past. It involved a broad simultaneous review of several types of risk exposure at the participating banking organizations, covering a majority of the assets of the U.S. banking system. Examiners applied the same stress parameters to each firm, highlighting the relative strengths and weaknesses among them. According to Bernanke, because the Fed simultaneously evaluated potential credit exposures across all the firms, it was also better able to consider the systemic implications of financial stress under adverse economic scenarios. The idea is to now build on the success of this initiative and conduct more frequent, broader and more comprehensive horizontal examinations, evaluating the institutions' overall risk profiles as well as specific risks and risk-management issues (Bernanke, 2009a).

During the peak of the global financial crisis, apparently diverse markets showed a synchronized decline, and assets that were supposed to be uncorrelated showed high degrees of correlation. As in the case of regulation, which should monitor the overall level of credit creation rather than regulate by institution, asset allocation should now take into account the risk factors of

different investments rather than focus on asset classes, given that during the crisis the same risk factor applied to different asset classes. This requires asset allocators to look at different kinds of risk, such as concentration, leverage, liquidity, transparency or volatility risks.

Increased cooperation

The NAFTA countries have celebrated their agreement's fifteenth birthday in a context of a rapidly changing world. Fifteen years ago, NAFTA offered a fundamental reorientation toward a potentially deeper integration of North America. To Mexico, in particular, this meant a reorientation towards a more stable macroeconomic environment, closer links to the U.S. economy and a more diversified and transparent financial sector. Now, facing the reality of the post-crisis world, the NAFTA countries may chart a new path of cooperation and integration.

A closer examination of the reasons why Canada's and Mexico's financial sectors showed such resilience suggest that increased cooperation among the NAFTA countries will be beneficial in the post-crisis world. Both Mexico and Canada provide examples of how transparency and regulation and supervision of the financial sector can be improved with adequate policies. The trade ministers of the U.S., Canada and Mexico have recently announced that they see more regulatory harmonization as the next step in growing trade under the NAFTA agreement. Increased collaboration in a more interconnected world – particularly in the development of a more macro prudential approach of supervision and regulation – will also be a very important step forward. In the annual meeting of the NAFTA Free Trade Commission in October 2009, the officials of the three countries agreed to develop a work plan dealing with competitiveness, strengthening institutions and communications, and transparency. They also said that they would seek to reduce unnecessary regulatory differences to ensure the free flow of goods, services and capital through modern and efficient borders.

The three NAFTA countries may bring their collaborative efforts to a larger forum as well. All three countries take part in the G20, which has become the new center of international economic policy making. The process of transition from the G7 to the G20 as the premier international policy making group started in the G20 meeting in Pittsburg at the end of September 2009. Although the transition was ultimately inevitable, the outbreak of the global financial crisis greatly accelerated this process. So far, following meetings in November 2008, April and September 2009, the group has proved to be workable and has indeed effectively "steered" the global economy during this period.

The communiqué published by world leaders at the conclusion of the G20 summit in Pittsburg designated the group as the "premier forum for our

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international economic cooperation", acknowledging that this expanded group of countries – representing 90% of global GDP and two-thirds of the world's population – will be the key forum to discuss economic issues in the future. Leaders also signed up to a framework for balanced growth. The global economy needs to shift towards growth that is more balanced and sustainable and less prone to distortions and crises. The G20 countries, U.S. Treasury Secretary Geithner said, "are doing something that hasn't been done before. At the earliest stage of a recovery, we are working to get the world to embrace a framework to help prevent the next damaging bubble" (Shin, 2009).

Under this framework, aimed at improving coordination of global economic policymaking, the world would reduce its reliance on the U.S. consumer, China would boost domestic demand, the U.S. would trim its borrowing from overseas and the Europeans would encourage investment. G20 countries would be subjected to a type of "peer review", where the countries would assess whether each others' policies are working and the IMF would provide technical help. No enforcement mechanisms or penalties were included.

In recent meetings, the G20 policy makers have focused on the need to address the global macroeconomic imbalances and the discussion of broad principles of regulatory and capital market reforms, including the role of global institutional structures and of the international financial institutions. If their plans are implemented, the post-crisis world will likely be characterized by greater policy coordination and a more efficiently regulated financial system. Capital requirements will be higher, more robustly defined and counter-cyclical. Large institutions will be subject to an extra layer of prudential regulations given that their failure could have systemic consequences; and better resolution mechanisms for systemically important financial firms will be in place.

On the other hand, the post-crisis world may also be characterized by higher public debt, especially in the developed countries, possible lower potential growth, a retrenchment of U.S. consumers (before the crisis U.S. private consumption accounted for about 16% of global output), and a diminishing role for the U.S. dollar. From an emerging market perspective, capital inflows may not be restored to pre-crisis levels and a retrenchment in bank flows from emerging market lending is possible – especially to borrowers and economies that are perceived to be the weaker end of the spectrum – as new regulations requiring banks to hold risk-based levels of capital are introduced.

In order to regain broad and solid legitimacy, the new financial architecture must take into account the needs of all countries, by providing an adequate developing country representation and guaranteeing their right to a voice and vote in the decision-making process. A broad support is needed to adopt the reforms that the financial architecture requires to reduce the systemic risk and minimize contagion effects.

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VI. Final remarks

The world economy is going through a period of fundamental changes. Up until now, the "efficient market hypothesis" had been the dominant principle for regulators and policymakers. However, the idea that "more complete markets are good and more liquid markets are even better" is no longer trusted. The problem is not so much that a flawed principle was being used, but that it was being used with such abandonment.

Over the past 20 years the world and its financial system became more complex as a result of financial innovations that led to electronic trading platforms, globally integrated markets, higher trading volume and more liquidity, but at the cost of more complex price dynamics. "In this new investment paradigm, markets are neither always efficient nor always irrational, but are adaptive. During normal times, prices can be trusted to reflect the "wisdom of the crowds". During times of distress, investors react instinctively and emotionally – the wisdom of crowds becomes the "madness of mobs". We can protect ourselves from the vicissitudes of these regime shifts only by acknowledging their existence and properly preparing for them in advance" (Lo, 2009). Policymakers, politicians, investors and bankers around the world, should thus be open to work together, to revaluate their strategies periodically and keep remaking policy as the world economy advances and changes. The "peer review" proposed by the G20 is a step in this direction. The financial crisis has shown how the world is now interconnected, thus the need for international cooperation and globally agreed policies is greater than ever.

It is important as well not only to learn the lessons from past crisis, but to try to avoid the crisis of the future by building stronger economies. In order to make the world economic recovery sustainable, countries have to also make investments that will drive productivity and innovation in the future.

Finally, though financial issues have been the focus of this paper, clearly, taking advantage of the new global economic environment will very much depend on policies that deepen and diversify countries' position within the international economy. In a world of increasingly open and interdependent economies, economic growth depends on the opportunities offered by markets and on the dynamics generated by ever-increasing international competition. Taking advantage of these opportunities demands bringing about structural change and productivity growth. As ECLAC has stressed, innovation and productive diversification do not happen spontaneously and solely in response to market signals but are the outcome of well designed and implemented policies and strategies (ECLAC, 2008b).

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