

# The BIS and the Latin American debt crisis of the 1980s



## Working Paper Research

by Piet Clement and Ivo Maes

December 2013 No 247

National Bank of Belgium  
Limited liability company  
RLP Brussels – Company's number: 0203.201.340  
Registered office : boulevard de Berlaimont 14 – BE-1000 Brussels  
[www.nbb.be](http://www.nbb.be)

Editor

**Jan Smets**

Member of the Board of directors of the National Bank of Belgium

© Illustrations : National Bank of Belgium

Layout: Analysis and Research Group  
Cover: NBB AG – Prepress & Image

Published in December 2013

## **Abstract**

The Latin American debt crisis, which broke out in August 1982, was the first global financial crisis in the postwar period. While the crisis started in the "periphery", it constituted a threat to the "core" of the world economy, as the banking system was under severe pressure. Alongside the IMF, the BIS played an important role in coordinating the international response to the crisis. Moreover, a lot of work at the BIS in the second half of the 1970s had aimed at restraining the debt build-up. Discussions on the rising debt levels were highly influential in shaping the BIS view of financial stability, with the "macroprudential" concept at its core. However, in the analysis of the debt build-up, the role of financial innovations was not really captured. In this paper, we focus on the Latin American debt crisis, discussing first the debt build-up, different initiatives to restrain lending and the BIS role in the management of the crisis. We then turn to the ensuing efforts to strengthen the financial system and the emerging BIS approach to financial stability.

Key words: Latin American debt crisis, BIS, macroprudential, financial fragility, Lamfalussy

JEL codes: A11, B22, B32, E3, F02, G10, N10

### **Corresponding authors:**

Piet Clement, Bank for International Settlements, Basel - e-mail: [piet.clement@bis.org](mailto:piet.clement@bis.org)

Ivo Maes, NBB, Research Department, Robert Triffin Chair, Université catholique de Louvain and ICHEC Brussels Management School - e-mail: [ivo.maes@nbb.be](mailto:ivo.maes@nbb.be)

The authors would like to thank all those who contributed to this project, especially P. Butzen, Y. Cassis, H. Famerée, C. Schenk, J. Smets, C. Van Nieuwenhuyze and participants at the European University Institute, WEHC (University of Stellenbosch), the Italian Society of Economists (Matera) and ESHET Argentina meetings.

The views expressed are those of the authors and do not necessarily reflect those of the National Bank of Belgium or of the BIS. The usual caveats apply.

## TABLE OF CONTENTS

<b>1.</b>	<b>Introduction .....</b>	<b>1</b>
<b>2.</b>	<b>The 1970s: The BIS in a changing international monetary and financial system .....</b>	<b>1</b>
<b>3.</b>	<b>The Latin-American debt build-up .....</b>	<b>3</b>
<b>4.</b>	<b>BIS efforts at restraining the debt build-up .....</b>	<b>6</b>
4.1	A risk office .....	6
4.2	Burns' checklist .....	7
4.3	A joint meeting of the ECSC and the BCBS .....	8
4.4	Working parties on the Euro-currency markets .....	9
<b>5.</b>	<b>The BIS role in the management of the debt crisis .....</b>	<b>13</b>
<b>6.</b>	<b>Strengthening the financial system and the BIS macro-prudential approach .....</b>	<b>19</b>
6.1	Improved monitoring .....	19
6.2	Strengthening international banks .....	20
6.3	Towards a macro-prudential approach? .....	22
<b>7.</b>	<b>Conclusion.....</b>	<b>25</b>
	<b>References .....</b>	<b>27</b>
	National Bank of Belgium - Working papers series.....	29

## **1 INTRODUCTION**

The Latin American debt crisis, which broke out in August 1982, was the first global financial crisis in the postwar period. While the crisis started in the "periphery", it threatened the "core" of the world economy, as the banking system was under severe pressure. The Bank for International Settlements (BIS) played an important role in the management of this crisis, especially in the provision of "bridging loans" (before IMF stabilisation loans could be accorded). Moreover, its statistics were invaluable for policy-makers to quickly identify the banks involved in the debt crisis and their level of exposure. The Latin American debt build-up was also the first occasion on which the central banking community at the BIS reflected on a macroprudential approach to financial stability. Over time, the BIS has developed a broad approach to financial stability, "marrying" the micro- and macroprudential dimensions (Crockett, 2000).

This paper starts with a section on the Bank for International Settlements and its changing role in the 1970s. We then go on to the Latin American debt build-up in the second half of the 1970s and the different initiatives discussed at the BIS aimed at restraining international lending. These discussions were influential in shaping the BIS view of financial stability, especially the "macroprudential" dimension. However, they also show that the role of financial innovations in the debt build-up was not really captured, illustrating the need to combine the micro- and macro approaches. Thereafter we go into the BIS role in the management of the crisis, which was successful in preventing the crisis spreading from the periphery to the core and thus triggering a worldwide financial meltdown. Finally, we discuss efforts at strengthening the financial system and the development of the macroprudential concept in the aftermath of the crisis. Thus, the Latin American debt crisis is looked at in this study from the specific viewpoint of central banks and regulators and particularly the BIS<sup>1</sup>.

## **2 THE 1970S: THE BIS IN A CHANGING INTERNATIONAL MONETARY AND FINANCIAL SYSTEM**

The Bank for International Settlements was set up in 1930 to administer German war reparation payments and serve as a forum for central bank cooperation. The BIS provided central bankers with three main services: research on issues relevant to international payments and prudential supervision, a venue for regular and discreet meetings, and a financial arm (particularly important in the gold market). In the postwar period, Basel was

---

<sup>1</sup> For a recent analysis of the 1980s Latin American debt crisis and a comparison with the euro area debt crisis, see Eichengreen et al., 2013.

one of the main centres of international monetary cooperation, contributing to the longevity and success of the Bretton Woods system (Toniolo, 2005). It was during this period that the Group of Ten (G10) of most industrialised countries established itself as one of the main organisational groupings for international financial cooperation, both at the IMF and the BIS.<sup>2</sup>

From the perspective of the central banks, one of the most significant financial developments in the 1960s was the emergence of the so-called Euro-currency market, a market for short-term deposits and credits denominated in a currency different from that of the country in which the deposit-taking or credit-giving bank was located (at that time, most commonly dollar-denominated deposits held in European banking centres: so-called Euro-dollars). London established itself as the main centre of the euro-currency market, which between 1963 and 1973 expanded by up to 40% annually.<sup>3</sup> This prompted the G10 central banks into action. They asked the BIS to undertake a wide-ranging survey and to compile regular statistics on Euro-currency operations. In April 1971, the governors went a step further by creating a dedicated Euro-currency Standing Committee (ECSC), with the objective to monitor the rapid growth of international banking markets more closely.<sup>4</sup> However, in spite of concerns about the size and volatility of the Euro-currency market, the central banks did not intervene to try to regulate it or restrain its growth.<sup>5</sup> The only measure taken was a temporary agreement in 1971 to reduce the central banks' own holdings in the Euro-currency market.

The collapse of the Bretton Woods system in the early 1970s, contributed significantly to a shift in the objectives of central bank cooperation. It went hand in hand with a more general shift from a government-led to a market-led financial system (Maes, 2007). With floating exchange rates, increasing capital mobility and financial liberalisation (also inside countries), the focus of cooperation shifted away from monetary stability towards financial stability (Clement, 2008, 6). The high-profile collapse of certain banks, like Herstatt and Franklin National, also contributed to this shift. In December 1974, the central bank Governors of the G10 countries set up the Basel Committee on Banking Regulations and

---

<sup>2</sup> The G10 consisted of Belgium, Canada, France, (West) Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom and the United States. Switzerland soon joined as an associated member.

<sup>3</sup> For an analysis of the emergence and growth of the Euro-markets see: Schenk, 1998; and Battilossi and Cassis, 2002.

<sup>4</sup> In 1999, the ECSC was renamed Committee on the Global Financial System (CGFS). It exists to this day. Its mandate is to identify and assess potential sources of stress in global financial markets, to further the understanding of the structural underpinnings of financial markets, and to promote improvements to the functioning and stability of these markets. (see: <http://www.bis.org/cgfs/index.htm>).

<sup>5</sup> This outcome reflected the substantial differences among the central banks in their approach towards the Euro-markets (Toniolo, 2005, 466). Most continental European central banks, especially the Bundesbank, distrusted the Euro-markets, blaming them for hot capital flows which hindered their monetary policy operations and for complicating the supervision of their domestic banks. They argued for stringent regulations. Other central banks, especially the Bank of England, promoted the Euro-markets and rejected controls.

Supervisory Practices (BCBS).<sup>6</sup> Like the ECSC, the BCBS was made up of high-ranking experts from the G10 central banks, supported by a BIS-based secretariat. Both committees reported directly to the G10 central bank Governors who met in Basel on almost a monthly basis. The creation of the BCBS led to an agreement allocating cross-border supervisory responsibilities for internationally active banks among member authorities, the so-called "Concordat", in 1975. This was followed by the development of good practice guidelines and standards in all areas of banking regulation and supervision.

### **3 THE LATIN-AMERICAN DEBT BUILD-UP**

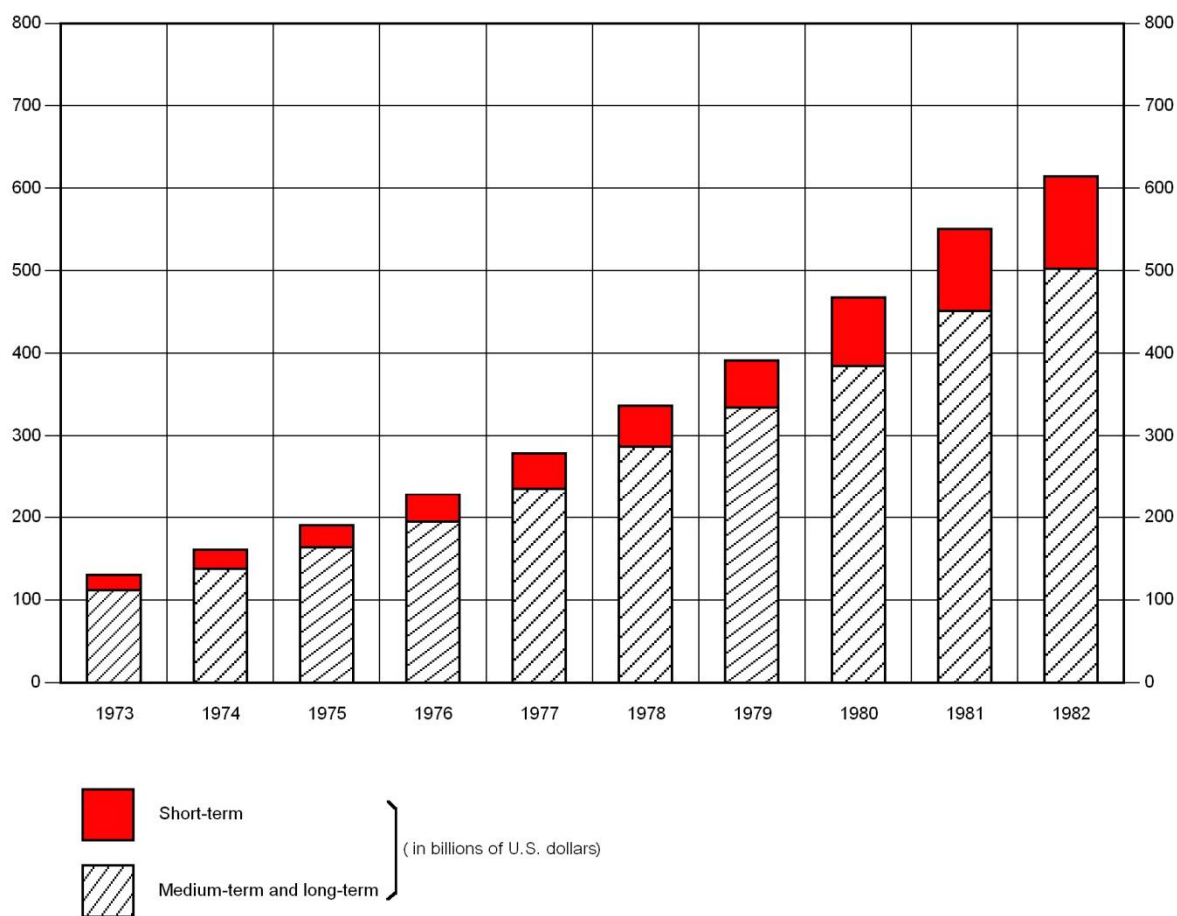
The quadrupling of oil prices in November 1973 marked a turning point in the world economy. It was an important factor behind the stagflation of the 1970s and contributed to new balance of payments imbalances, with significant surpluses in the oil producing countries and a sharp deterioration for the oil importing countries (both developed and less developed countries). The oil price shock had also major consequences for international banking. The Euro-currency markets, earlier distrusted for their alleged destabilising effects, now were a useful vehicle for recycling the petrodollar surpluses of the OPEC countries to countries with balance of payments deficits. With the recycling, the focus of attention at the ECSC shifted to lending to developing countries, which was growing at a tremendous pace (see chart 1). At first, this recycling was largely beneficial to the world economy. However, it also implied that the international banking system was faced with an increase in country risk. At the ECSC meeting in December 1975, Kit McMahon from the Bank of England observed that concern was growing "about the indebtedness ... of a large number of non-industrial countries, about the role that the Euro-currency market had played since the emergence of the oil surplus and about the possible consequences of these factors in the coming year".<sup>7</sup>

---

<sup>6</sup> The name was later changed to Basel Committee on Banking Supervision, BCBS.

<sup>7</sup> Note on a meeting of the ECSC held on 8 December 1975, BISA 7.15(1), G10 D22.

Chart 1 Non-oil Developing Countries' External Debt, 1973-1982



im03\_2012\_01

Source: IMF.

The BIS was sufficiently concerned to discuss publicly the increasing indebtedness of certain countries, as well as its increasingly short-term character. In a speech in 1976, Alexandre Lamfalussy, then Economic Advisor at the BIS, drew attention to the threat of a crisis: "[looking at]... the continuous growth of credits, the spread of risks to a large number of countries, and the change in the nature of credits – I draw the conclusion that the problem of risks has become a very urgent one." (Lamfalussy, 1976, 5).

However, in 1976 and 1977, the current account deficits of several developing countries, particularly in Latin America, improved, mainly because of adjustment policies and the recovery in the world economy. But, in 1978, riding the wave of a worldwide borrowers' market, adjustment policies were abandoned and the deficits increased again significantly. For Lamfalussy (1978), important causes of this borrowers' market were loose monetary



policies and the US current account deficit, which was "pumping liquidity into the international financial system".

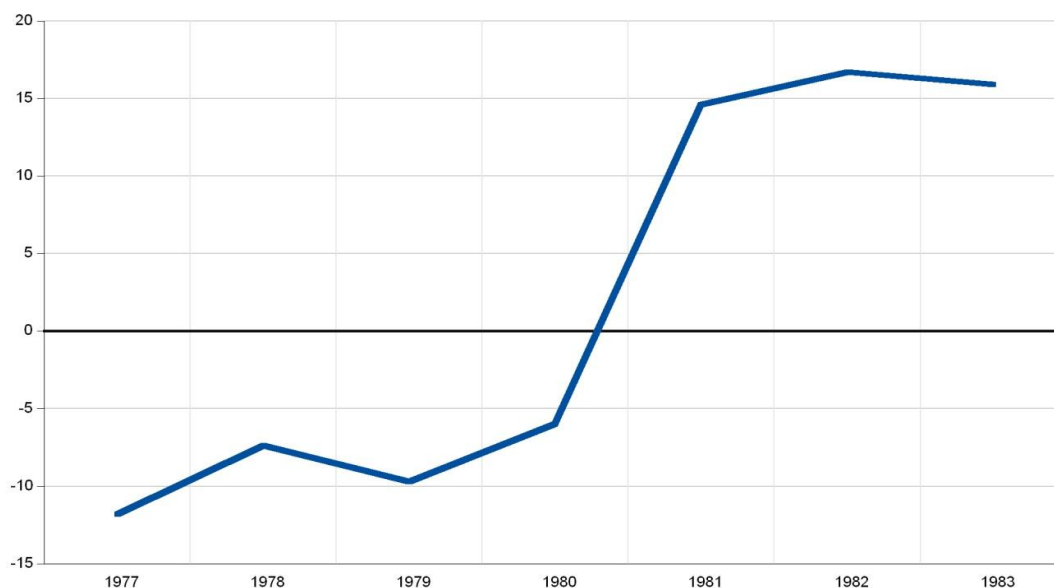
The crucial role of the banking sector also implied that the IMF, with its conditional financing, only played a minor part in the financing of current account deficits during this period of debt build-up. Lamfalussy (1978) warned against relying uniquely on the financial markets and for a sudden stop of lending. "There are not many examples of successful conditional lending by the private banking system; and in the absence of a pre-negotiated gradual adjustment program, the only way private banks can set into motion domestic adjustment policies is when they stop lending. This has happened in some cases; and when it happened, it did so fairly abruptly. Gradual adjustment, under the wisely-dosed pressure of conditional lending by the IMF would clearly be preferable to this drastic medicine".

The debt build-up was also stimulated by financial innovations, in particular the generalised use of floating interest rates in medium-term bank loans. During the petrodollar recycling, this allowed banks to protect themselves against the erosion of their intermediation margins. However, it also had the effect of passing on short-term market interest rate movements to borrowers (see chart 2). Negative real interest rates in the 1970s boosted demand for credit, leading to a period of over-expansion. The increase in real interest rates from 1979 onwards, mainly due to the tightening of US monetary policy under Fed Chairman Paul Volcker (leading to a decline in the dollar prices of Latin American exports as well), placed a crippling burden on many debtors. The ensuing debt crisis threatened the entire world financial system.

---

**Chart 2** Average real percentage interest rate on developing country floating-rate debt

---



---

Source: Maddison, 1985, 47.

---

## **4 BIS EFFORTS AT RESTRAINING THE DEBT BUILD-UP**

In this section, we focus on behind-the-scenes efforts undertaken from the mid-1970s to moderate international bank lending. We discuss four major initiatives: a proposal to create a risk office at the BIS, the so-called Burns' checklist initiative, a joint meeting of the Euro-currency Standing Committee and the Basel Committee of Bank Supervisors, and working parties on the Euro-currency markets.

### **4.1 A risk office**

In 1976, Alexandre Lamfalussy (re-)launched the idea of setting up a central risk office<sup>8</sup>. His idea was that the 40 or 50 major internationally active commercial banks would submit, directly to the BIS, information on their claims on individual countries. The information would also comprise a breakdown into the major categories of borrowers (banks, non-banks, governments, multinationals, etc.), and a broad maturity structure.<sup>9</sup> He argued that this would provide a much better picture of the debt situation than the available data. This initiative also showed a key element of the BIS's "macroprudential" approach: a focus on key players of systemic importance, while also getting a better

---

<sup>8</sup> An earlier suggestion of setting up an international risk office was rejected in 1965 (Toniolo, 2005, 469).

<sup>9</sup> Note by Lamfalussy, "Some remarks on the Memorandum on the Euro-currency market and regulations of international financial flows", 9 July 1976, BISA 7.18(15), LAM 27/F72.

understanding of the broader macro situation. However, the idea of a risk office was not taken up.

## **4.2 Burns' checklist**

In 1977, Arthur Burns, then Chairman of the Fed, suggested drawing up a "checklist of questions" for banks which were lending to sovereign borrowers.<sup>10</sup> The idea was to incite the banks to have a look at the relevant economic indicators before taking their lending decisions (see Maes, 2011). This initiative followed after a first financial crisis in Mexico in 1976. At the Federal Open Markets Committee meeting of 16 November 1976, Burns had criticised the Federal Reserve staff for being too lax regarding the Mexican financial situation (Meltzer, 2009, 960).

The "Burns' checklist" comprised two pages, with questions for information on "Countries' long-term external indebtedness" and "Short-term external liabilities and assets".<sup>11</sup> The BIS Monetary and Economic Department, especially Alexandre Lamfalussy and Michael Dealtry, was largely responsible for drafting the questionnaire. Together with the respective central banks, they contacted 57 international banks to sound out their willingness to take part in this arrangement.

During the preparations for the "checklist", several central bankers were critical of the idea. For instance, Pierre Languetin (of the Swiss National Bank) observed that he "was not sure what the aim of the proposed questionnaire was. Was it to teach banking to bankers?"<sup>12</sup>

As observed in the concluding report to the Governors, the commercial banks were reluctant to take on Burns' questionnaire. The main reason was that they feared losing lucrative business to unfair competitors: "By far the biggest difficulty is seen as lying in the degree of competition for foreign business that exists between banks. There was virtually no bank visited that did not take this point of view".<sup>13</sup>

In their concluding report, Lamfalussy and Dealtry noted further that the idea of improving the information on debt was met positively by the banks and that several banks welcomed the recent improvements in the data. However, they also noted that not all the banks knew about the BIS statistics, a crucial tool for understanding their credit risks.

---

<sup>10</sup> US banks were particularly exposed to Latin American debt.

<sup>11</sup> "Suggested list of information to be requested by lending banks from, or with respect to, the external financial situation of the country of residence of foreign borrowers", BISA, 7.18(12) DEA2.

<sup>12</sup> Dealtry, "Note on the meeting about information to be requested by banks from prospective borrowers in the international credit markets, 18 June 1977, BISA, 7.18(12), DEA2.

<sup>13</sup> Report to the Governors on the reactions of commercial banks in Group of Ten countries and Switzerland to Chairman Burns' proposed checklist, 26 October 1977, BISA 7.18(12) DEA2.

Among the central banks, there was a discussion whether the checklist should be mandatory. Federal Reserve Board of Governors member Henry Wallich argued strongly against this, "Stressing the concept of voluntarism seems important. ... We will want to underscore that such supervisory actions will rest individually with each country's banking authorities".<sup>14</sup> During the ensuing discussions, the idea of a checklist was quietly dropped. However, the Governors instructed the BIS to produce a new "Manual on statistics compiled by international organisations on countries' external indebtedness" and asked the BIS to make further efforts to improve the statistics.

### **4.3 A joint meeting of the ECSC and the BCBS**

At the ECSC meetings in spring 1978, the rapid growth of international lending was a major issue. The outcome was a report that highlighted the linkage between prudential regulation and macro-economic concerns and a request by the ECSC for a joint meeting with the BCBS.<sup>15</sup> As Lamfalussy observed, "the members of the Euro-currency Standing Committee ... were agreed in their concern with regard to the prudential problems involved in international banking. In addition, some members expressed the view that between the purely macro-economic issues and the purely prudential ones there is a range of questions where the two fields overlap. They therefore suggested, and the Governors (..) agreed, that a joint group of representatives from the Euro-currency Standing Committee [ECSC] and the Cooke Committee [BCBS] ... should consider whether there were ways in which the use of prudential measures might be extended into the macro-economic field for the purpose of controlling the expansion of international bank credit, and should try and develop a common view in that field".<sup>16</sup> The objective was "not to try and stop the growth of international bank lending but rather to see that it takes place on a sound and sustainable basis".

The joint meeting of the ECSC and the BCBS was held in Basel on 15 November 1978. The meeting discussed in particular the possibilities of controlling the growth of international bank lending by three different types of banking supervisory measures: limits on the total international element in banks' balance sheets; limits on banks' lending to individual foreign countries and their residents; and limits on maturity transformation in banks' international business. However, the use of such instruments was rejected. As stated by BCBS Chairman Peter Cooke, the meeting "concluded that uniform limits even at the national level in individual banks' international business were neither desirable nor possible. Country limits, too, were not regarded as an acceptable instrument for

---

<sup>14</sup> Letter to Lamfalussy, 22 July 1977, BISA 7.18(12) DEA2.

<sup>15</sup> ECSC, "Chairman's report on policy problems related to the growth of the Euro-currency market and international bank lending since the oil price increase", BISA 7.18(15) – *Papers Lamfalussy*, LAM20.

<sup>16</sup> Possible uses of banking supervisory instruments for controlling the expansion of international bank credit, 31 October 1978, BISA, 1.3a(3)F Vol. 2.

controlling the overall growth of international bank lending, although the importance of improving the information on country indebtedness available to banks was re-emphasised. Maturity transformation was generally agreed to be an area to which particular attention should be paid and here the first priority was to obtain better information".<sup>17</sup>

#### **4.4 Working parties on the Euro-currency markets**

Shortly afterwards, the Federal Reserve Board, chaired at the time by Bill Miller, proposed a reserve requirement on Euro-currency deposits. This proposal received mixed reactions from the other central bank governors. The discussions led to a decision, in May 1979, by the G10 Governors to investigate how the Euro-currency market could be better "controlled".<sup>18</sup> The Governors decided to set up several study groups. Of particular importance were the Larre Group (presided by René Larre, General Manager of the BIS), instructed with identifying the areas in which international lending gave rise to concern, and the Lamfalussy *Working Party on Possible Approaches to Constraining the Growth of International Bank Lending* (Lamfalussy Group).<sup>19</sup>

While the central banks valued the economic benefits and opportunities brought by the expansion of international banking, their primary focus naturally had to be on possible negative side-effects, in line with their financial stability mandate. A key theme in the Larre Group was the "sur-recyclage" of the oil-exporting countries' surpluses. The Group argued that there were three worrying aspects linked to the rapid expansion of international bank activities: undesirable macro-economic consequences (such as inflation), problems for monetary policy, and prudential concerns with respect to banks.

The Larre Report drew attention to the fact that the growth of the banks' international lending increasingly exposed them to potential losses in countries over which the home authorities of the lending banks had no control. "This concern is particularly felt with respect to a number of developing countries which are already heavily indebted to foreign borrowers and whose external deficits will increase further as a result of the latest oil price increase."<sup>20</sup>

According to the Larre Report, banks were underestimating the risks they were taking. The Report clearly took a macroprudential perspective, distinguishing between risk at the level of individual banks and risk for the banking community as a whole: "As a result of their relatively good loss record in international banking over recent years the banks'

---

<sup>17</sup> Chairman's note, BS/79/10, BISA, Banking Supervision 1979/9.

<sup>18</sup> Note, Le contrôle du marché des euromonnaies, NBB, 6/3/1980, NBBA, C.416/1.

<sup>19</sup> In fact, the composition of the Larre Group was identical to the ECSC itself. As such, Alexandre Lamfalussy also participated in the Larre Group discussions.

<sup>20</sup> Report of the Euro-currency Standing Committee on areas of concern about the growth of international banking, 29 February 1980, BISA., 7.18(15), LAM20, F57.

perception of the risks involved in this part of their business has perhaps been lower than would be justified on a rational macro-economic assessment. In that connection, even if the positions of banks considered individually appeared quite acceptable, the exposure of the international banking community as a whole might give cause for some anxiety." The Report further argued explicitly that a "macroprudential" perspective was necessary as risks would increase in the future due to the oil price shock of 1979 and the reappearance of large OPEC surpluses: "The banks' role in the recycling of the new OPEC surpluses will lead to further growth of their international lending in circumstances where imprudent lending policies could have major consequences not only for the banks themselves but for the world economy. In that connection it is argued that there will be greater macroprudential risks for the banks in the future than can be assessed on the basis of past experience. If this argument is well-founded, central bank supervisors may wish to take this macroprudential view into account".

There were quite important differences in approach and emphasis between the central banks, which surfaced clearly in the Lamfalussy Group. As observed by Jean-Jacques Rey, one of the Belgian participants: "It was particularly difficult to finalize the wording of the Lamfalussy Group report because of deep-seated differences of opinion".<sup>21</sup> The differences of opinion within the Lamfalussy Group, especially between Lamfalussy himself and Stephen Axilrod from the Fed, concerned in particular<sup>22</sup>: (1) the mandate of the Group, with Lamfalussy emphasising an approach to control international bank lending and the Fed focusing on control of international liquidity<sup>23</sup>; (2) the role of national monetary policies in the control of the Euro-markets, with Lamfalussy emphasising that the key lay in domestic monetary policy<sup>24</sup>, while the Fed and the Bundesbank were in favour of a permanent and uniform system of international control based on reserve requirements.

The use of prudential measures to limit international bank lending sparked a vivid debate. Axilrod was sceptical of the idea, which was defended by both Lamfalussy and McMahon from the Bank of England. The discussions were based on a paper by the Bank of England, entitled "The use of prudential measures in the international banking markets".<sup>25</sup>

---

<sup>21</sup> Note, Fin des travaux des Groupes Lamfalussy et Axilrod, 20 February 1980, NBBA C.416/17. See also Axilrod, 2009.

<sup>22</sup> According to the minutes of the representatives of the National Bank of Belgium, notes of 29 June 1979 and 20 February and 6 March 1980, NBBA, C.416/6.

<sup>23</sup> At that time, the monetary aggregates were the intermediate target of US monetary policy.

<sup>24</sup> In line with his view that the strong growth of international lending was related to the borrowers' market and loose US monetary policy.

<sup>25</sup> The paper, dated 24 October 1979, was signed by David Holland, Deputy Chief of the Bank of England's Overseas Department, BISA, 7.18(15) LAM25/F67. As London was an important Euro-market centre, the Bank of England was closely monitoring international banking developments (see, e.g., regular articles in the Bank of England's *Quarterly Bulletin*). Moreover, after the "secondary banking crisis" of 1973-1974, the Bank of England was invested with statutory responsibility for banking supervision, following the Banking

In this paper, the "macroprudential" concept was forcefully advanced.<sup>26</sup> The paper argued that the micro-prudential aspect of banking supervision needed to be placed in a wider perspective. The "macroprudential approach" was characterised as one focusing on problems that "bear upon the market as a whole as distinct from an individual bank, and which may not be obvious at the micro-prudential level". Three examples of macroprudential problems were cited, to illustrate that the micro-prudential viewpoint might fail to take full account of the wider macroprudential picture: (1) the growth of the market. While the growth of an individual bank's business might seem wholly acceptable from a micro-prudential standpoint, the overall rate of growth of international lending might be risky. So, banks might make overly optimistic assumptions about the adjustment process of countries with balance of payments deficits; (2) the perception of risk. The paper argued that, as bad debt had been low in recent years, "sovereign risk has appeared to the banks not only to be low but perhaps even to be declining"; (3) the perception of liquidity. Banks are faced with both interest rate risks and funding risks. The paper argued that banks probably regard interest rate risk as the greater risk, at least in the short term. So, banks may be "unduly complacent" about the funding risk.

The Bank of England paper further favoured prudential measures to constrain the growth of international bank lending, concluding that they "could be a useful approach to ensuring that growth of international bank lending markets is soundly based. They could further have some, albeit modest, constraining influence on that growth". After intense discussion, it was decided to consult the BCBS about the technical feasibility of some of these prudential measures, in particular the use of special balance-sheet provisions for involuntarily rescheduled loans and the use of capital ratios.<sup>27</sup>

The BCBS was not in favour of a "macroprudential" approach.<sup>28</sup> It stubbornly stuck to its view that "supervisors should not impose on the banks for which they are responsible any measures for which there are not sound prudential reasons". The BCBS rejected the Lamfalussy Group proposals to use prudential measures to constrain the growth of international bank lending. It observed that the two proposed prudential measures (special balance-sheet provisions and the use of capital ratios) "would be technically difficult to implement at the national level and, on the basis of experience to date, both would be difficult to justify on prudential grounds. More importantly, both appear to pose problems

---

Act of 1979. This naturally stimulated interest in supervisory issues at the Bank of England. However, Goodhart (2003, 33) observed that, initially, supervision itself was a very practical business, which "eschewed academic input" from economists. Moreover, contacts between the supervision department and other departments remained rather limited.

<sup>26</sup> On the origins of the term "macroprudential": Clement, 2010.

<sup>27</sup> Chairman's progress report on the activities of the "Working Party on Possible Approaches to Constraining the Growth of International Bank Lending", 28 November 1979, BISA, 7.18(15), LAM25/F67.

<sup>28</sup> Committee on Banking Regulations and Supervisory Practices, Report on the use of certain prudential measures to constrain the growth of banks' international lending, February 1980, BISA, 7.18(15), LAM25/F67.

of conflict between macro-economic and prudential aims<sup>29</sup>; and neither appears likely to exercise much constraining influence on banks' international lending beyond what would be achieved by effective prudential controls on individual banks applied on a consolidated basis".<sup>30</sup>

In its final report, the Lamfalussy Group emphasised three elements: the need for effective supervision of the international banking system, the reduction of inequalities in competitive conditions between domestic and international banking, and the monitoring of international banking developments.<sup>31</sup> In this respect, the Report pleaded – once more – for improvements in the timeliness and quality of the statistics reported to the BIS. On the basis of the different reports, the G10 Governors decided, in April 1980, to officially entrust the ECSC with the monitoring of international banking developments. A brief press communiqué was released to this effect.<sup>32</sup>

The 1978 joint meeting of the ECSC and the BCBS and the 1979-80 Lamfalussy Working Party provided examples of the sometimes very difficult dialogue in the central banking community on prudential issues, especially between the Basel Committee on Banking Supervision and the Standing Committee on the Euro-currency Market. The BCBS typically took a micro-prudential point of view. In its view, the main objective of banking supervision was to monitor the banks' compliance with prudential regulations. The ECSC took a more "macroprudential" approach, pointing to the increasing debt overhang of certain countries. However, the BCBS regarded the risks associated with these credits as minimal since they were short-term loans (floating-rate notes) which could be withdrawn quickly if there was the slightest danger.

In the second half of the 1970s, concern was running high in the central banking community, and especially at the BIS, about the Latin American debt build-up. There was also a clear awareness among several central bankers, especially in the ECSC (much less in the BCBS) that a "macroprudential approach" was necessary. However, there was

---

<sup>29</sup> The "problems of conflict" were not specified in the Cooke Committee Report.

<sup>30</sup> In this context, Charles Goodhart concluded: "Some will view this as the BCBS at its best, independent and principled; in particular, sticking up for the principle that regulation should be for (micro)prudential purposes only, and prepared to run counter to the preferences of their own central banks if they thought it right to do so. There is another view. The main concern of bank regulators, on this latter view, should be with (macro-)prudential concerns relating to systemic stability. Subject to concern over (depositor) customer ignorance, the individual bank can, and should, be the best judge of its own micro-risk/return trade-off. The regulator then should have much more concern about macro than about micro-fragility." Goodhart, C. (2011), 138.

<sup>31</sup> It also mentioned that "a number of members of the Working Party" were in favour of prudential measures to constrain international bank lending.

<sup>32</sup> Lamfalussy looked back rather critically on this period, "The G-10 governors continued to discuss the situation and eventually published, rather late, their April 1980 press communiqué. To cut a long story short, central bank endeavours to slow the sharp rise in unconditional international bank lending failed. So did the crisis prevention warnings of the June 1982 BIS Annual Report" (Lamfalussy, 2000, 13). It is also worth noting that the word "macroprudential" was not in the April 1980 press release. The interrelation between "micro"- and "macro"-prudential issues led Lamfalussy to become a strong advocate of central bank responsibility in the supervision of systemically important financial institutions.



virtually no awareness that financial innovations (floating-rate notes) were an important contributing factor to the debt build-up. This was aptly summarised in a National Bank of Belgium note on the Larre Report, which singled out three reasons for the rapid expansion of international bank lending: the internationalisation of economic life in the banking world too, the worsening of global imbalances, and the evasion of regulations. The NBB note was rather pessimistic about the Larre Group's work: "The Larre Group has not been able to formulate a precise diagnosis of the nature of the undesirable effects of the market, nor a unanimous judgment on the necessity to moderate its growth". However, it concluded that, the "macroprudential risks ... are likely to gain in importance in the context of the new phase in the recycling of petro-dollar surpluses".<sup>33</sup> Diagnosing the problem was one thing. Reaching consensus, even among central banks, on how best to tackle it proved illusory. With the outbreak of the international debt crisis in 1982, the concerns raised since the mid-1970s would soon become reality.

## **5 THE BIS ROLE IN THE MANAGEMENT OF THE DEBT CRISIS**

As mentioned before, in April 1980, the G10 Governors had tasked the ECSC with the continuous monitoring of international banking developments. International banking statistics collected by the BIS, and published in its annual reports and in the quarterly statistics on international banking developments, showed a further rapid growth of indebtedness, particularly in Latin America (see table 1 below). Most worrisome of all was the rapidly growing share of short-term debt – that is debt with a maturity of less than one year – which by early 1982 would reach about 50% of total debt claims held against both Mexico and Argentina (see table 2 below). As a result, a shift in focus in the central bankers' discussions was discernible from 1980 onwards. Previously, they had looked primarily for ways to slow down international lending. Now, attention shifted to practical preparations to deal with the fall-out of a potential crisis. In its meeting on 9 November 1980, the ECSC discussed a Bank of England paper on *Possible consequences of a debt service failure by a major borrowing country*. In April 1981, a questionnaire was sent to the G10 central banks on the means available to national authorities for providing liquidity support to banks in a crisis situation.<sup>34</sup> The results of this survey were analysed at subsequent ECSC meetings in 1981-82, leading to a consensus "Report on possibilities for central bank co-operation in handling liquidity crisis situations affecting banks' foreign establishments". In an early version, the report had been outspoken about the existing threats to the international financial system: "Developments that have taken place since the ... spring of 1981 have materially increased the concerns felt about the riskiness of

---

<sup>33</sup> Le contrôle du marché des euromonnaies, Commentaire des rapports Larre, Lamfalussy et Axilrod, Bruxelles, 6 March 1980, NBBA, C.416/17 and C.416/1.

<sup>34</sup> Euro-currency Standing Committee 1980-82, In BISA, 7.18(15) – *Papers Lamfalussy*, LAM21.

international banking. ... Default by one, or even several, international borrowers which at that time was just a working assumption has become a real possibility".<sup>35</sup> In the final version, this assessment – found to be too gloomy by some Committee members – was toned down.

**Table 1 Claims of G10 banks on some Latin American countries, 1976-83**

Totals (partly reported, partly estimated) in billions of US \$, current prices, end of period

claims on:	1976	1977	1978	1979	1980	1981	1982	1983
<b>Mexico</b>	17.8	19.3	23.4	30.7	41.0	55.4	58.9	62.9
<b>Argentina</b>	3.4	4.5	6.9	13.1	18.9	22.9	22.1	23.4
<b>Brazil</b>	21.2	22.9	31.9	36.9	43.3	49.7	56.0	57.5

Source: BIS, *International banking developments, quarterly reports*, April 1977 – April 1984.

When they met in Basel on 12 July 1982, none of the Governors can have been under any illusion about the international debt situation. The problems in Eastern Europe had already led to the BIS granting a bridging loan to Hungary in March 1982. In June 1982, the BIS Annual Report had warned against commercial banks reducing their international exposure too suddenly and indiscriminately.<sup>36</sup> The day before the Governors' meeting, another ECSC meeting took place at which Lamfalussy asked members whether they could "confirm reports that in recent months ... there has been a change in banks' perceptions of the risks involved in their international business. Are there signs that banks are becoming more reluctant to increase further their international exposure, or even have the desire to reduce it?".<sup>37</sup> The next day, the Governors discussed what action – if any – could be taken on the basis of the ECSC report. They concluded that the situation was indeed very grave. All the same, they did not want to sound too alarmist and decided against issuing a public statement on the availability of liquidity support aimed at reassuring the markets, as had been done in September 1974 in the wake of the Herstatt crisis. Talking publicly about the central banks' lender-of-last-resort powers might do more harm than good, it was argued, as it might be wrongly interpreted as a vote of no confidence in the entire international banking system. There was broad agreement that, in

<sup>35</sup> "Draft report to the Governors", 25.03.1982, BISA 7.18(15) – *Papers Lamfalussy*, LAM22. This early draft goes on to identify the main causes for this concern: "...the current state of the world economy – in which there is a combination of economic stagnation, relatively high inflation rates, low asset prices, high real interest rates and volatility of both interest and exchange rates – has increased the risks inherent in financial intermediation both internationally and domestically. (...) the deterioration of the world political climate has added new types of risk to international lending. Moreover these developments have occurred at a time of declining capital ratios in a number of international banks".

<sup>36</sup> BIS (1982), *Fifty-second Annual Report*, Basel, 188.

<sup>37</sup> Telex to ECSC members from Alexandre Lamfalussy, 1.07.1982, BISA 7.18(15) – *Papers Lamfalussy*, LAM22.

the event of a liquidity crisis, the continued proper functioning of the interbank market would be essential.<sup>38</sup>

Barely a few weeks later, the situation took a sudden turn for the worse. On 12 August 1982, the Mexican Finance Minister Jesús Silva Herzog closed his country's exchange markets and informed the US authorities that Mexico's reserves were exhausted.

**Table 2 External debt of Mexico, 1978-84**

Totals (partly reported, partly estimated) in billions of US \$, current prices, end of period

<b>MEXICO</b>	<b>1978</b>	<b>1979</b>	<b>1980</b>	<b>1981</b>	<b>1982</b>	<b>1983</b>	<b>1984</b>
<b>GDP (nominal)</b>	102.5	134.5	194.4	250.1	173.7	148.9	175.6
<b>Claims G10+ banks*</b>	<b>23.4</b>	<b>30.9</b>	<b>42.5</b>	<b>56.9</b>	<b>62.9</b>	<b>68.4</b>	<b>70.7</b>
Of which short-term (< 1 year)	31.8%	34.6%	44.3%	48.6%	47.6%	43.4%	24%
<b>Total external debt**</b>			<b>50.7</b>	<b>74.9</b>	<b>92.1</b>	<b>96.7</b>	<b>97.7</b>
Total external debt in % of nominal GDP			26.1%	29.9%	53%	64.9%	55.6%

\* Total claims of G10+ commercial banks on Mexico (G10+: G10 countries plus Austria, Denmark, Ireland and Switzerland).

\*\* Includes claims on Mexico from G10+ and non-G10+ banks as well as other loans.

Sources: BIS, *Maturity distribution of international bank lending*, July 1979 – July 1985, Worldbank and Kim, 1986.

The history of the Mexican crisis has been recounted elsewhere.<sup>39</sup> Suffice it to recall the broad outlines, with a focus on the BIS's role during the hectic first phase of the crisis. On 13 August a Mexican negotiating team, headed by Silva Herzog, met IMF Managing Director Jacques de Larosière. The priority was to mobilise the liquidity necessary to avoid an outright default. Federal Reserve Board Chairman Paul Volcker took the initiative to muster support from the Group of Ten central banks. He got in touch with BIS President Fritz Leutwiler to find out whether a meeting in Basel could be arranged at short notice. This was in the middle of the summer holiday period, and not everyone could be reached immediately.

<sup>38</sup> "whilst the international interbank market may contribute to the international diffusion of a banking crisis, the continued proper functioning of this market in the event of a liquidity crisis that has actually occurred could lessen the need for possible central-bank action. This follows from the consideration that the first external line of liquidity on which a bank can draw when facing a withdrawal of deposits is the interbank market itself". Speaking note for the Chairman's introduction, G10 Governors' meeting, Basel 12.7.1982, BISA 7.18(15) – *Papers Lamfalussy*, LAM22.

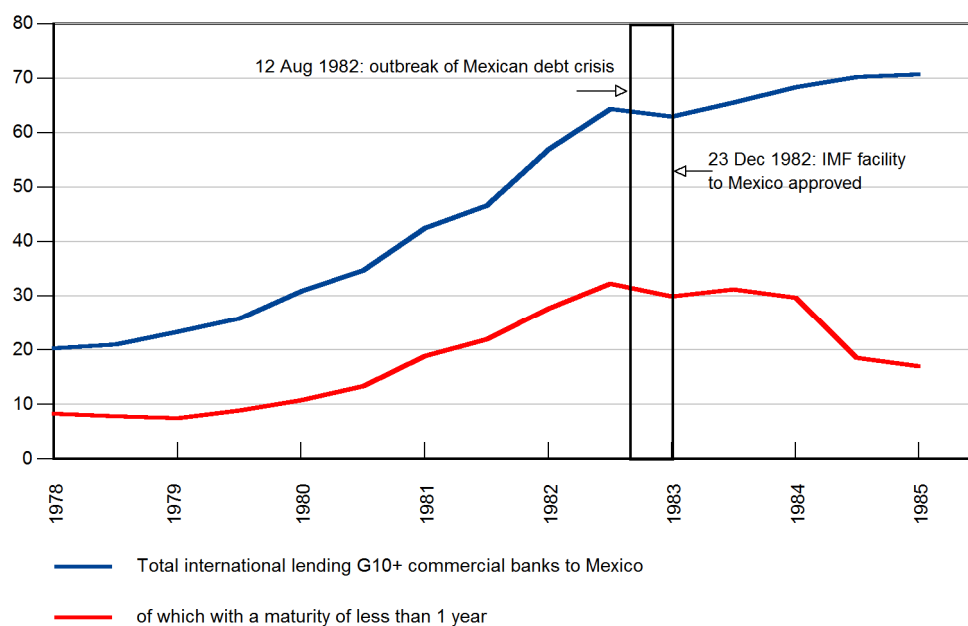
<sup>39</sup> See in particular: Boughton, 2001, 281-318; Diaz-Alejandro, 1984; Dornbusch, 1986; James, 1996, 347-408; Kraft, 1984; Marichal, 2010.

---

**Chart 3 G10+ commercial banks' exposure to Mexico, 1978-85**

(in billions of US \$, current prices, end of period, G10+: G10 countries plus Switzerland, Austria, Denmark and Ireland)

---



Source: BIS, *Maturity distribution of international bank lending*, July 1978 through July 1985

---

An impromptu meeting of the G10 Governors did not seem feasible. Instead, the Eurocurrency Standing Committee was called to Basel for an *ad-hoc* meeting on Wednesday 18 August, to “identify the exposure vis-à-vis Mexico of the individual national banking systems of the Group of Ten countries”, and to discuss the possibility of arranging immediate financial assistance for the Bank of Mexico.<sup>40</sup> The two questions were interrelated. The estimated exposure of the individual banking systems would be used as a basis to calculate the share of each of the G10 countries in the emergency credit line. It immediately became apparent that, in spite of all previous efforts to improve banking statistics, the readily available data were neither complete nor current. It took the experts a little while to compile, more or less reliably, the consolidated claims of banks with head offices in the G10 countries vis-à-vis Mexico at the end of 1981. At that point in time – i.e. more than seven months earlier – they together had held an estimated total of US\$ 58 billion of claims against Mexico. Banks in the United States and Japan were most exposed (holding US\$ 22 billion and US\$ 10 billion respectively).<sup>41</sup>

The general principle and magnitude of a credit facility in favour of the Bank of Mexico were quickly agreed. The BIS offered a US\$ 925 million loan, backed by the G10 central

---

<sup>40</sup> Telex Günther Schleiminger, BIS General Manager, of 16 August 1982, BISA 7.18(15) – *Papers Lamfalussy*, LAM22.

<sup>41</sup> Telex A. Lamfalussy to G10 central banks, 25 August 1982, BISA, 1.3a(3)B – *ECSC*, vol. 5.

banks and the Bank of Spain.<sup>42</sup> The US Federal Reserve and Treasury matched this with an equal amount, so that a total of US\$ 1.85 billion was made available for an initial period of three months (three times renewable). The collateral offered caused some last-minute problems – necessitating the dispatch of a BIS team to New York and then to Mexico – but eventually consisted of a gold pledge by the Bank of Mexico and advance claims on future revenues of the Mexican state oil company Pemex. The loan was made available in three tranches – subject to progress being made in Mexico’s negotiations with the IMF – the first of which was paid out on 30 August 1982.

This credit facility was announced in a press statement released on 29 August 1982, in the hope of reassuring the markets and to buy time. Time to allow Mexico to conclude an agreement with the IMF on an economic stabilisation programme that would enable it to qualify for drawings under the IMF’s extended fund facility. And time to allow the Mexicans to conclude difficult negotiations with the commercial banks on a necessary re-scheduling of Mexico’s private loans. These negotiations had started on 20 August, with the establishment of a coordinating committee, comprising senior officials from Mexico’s largest creditor banks. In order to get all of the more than 500 international banks who had a substantial exposure to Mexico on board, it was essential to convince them that the problem could still be contained if all parties cooperated, even if this meant temporarily increasing their exposure by granting Mexico additional credits. The US and BIS bridging loans and the prospect of an IMF facility played a key role in this strategy.

These efforts were almost derailed when on 1 September the outgoing Mexican President López-Portillo announced the nationalisation of Mexican banks and the introduction of exchange controls, and blamed foreign creditors – including the IMF – for Mexico’s predicament. The G10 Governors met on 5 September 1982 in Toronto, on the sidelines of the IMF-World Bank Meetings. The emergency loan granted on 30 August was confirmed, but the release of the second tranche was temporarily frozen pending developments in Mexico and further progress in the negotiations between Mexico and the IMF. The Governors feared that publicly revoking the emergency support to Mexico would undermine negotiations for a debt rescheduling with the commercial banks. No resolution was in sight at the end of the Toronto meetings. The chaotic situation led to temporary panic on the interbank market on Tuesday 7 September that was only halted by the central banks leaning heavily on the main international banks and by using the first tranche of the BIS loan for repaying part of the outstanding claims.<sup>43</sup>

In spite of all the difficulties – including the tense political transition from the López Portillo to the de la Madrid presidency – negotiations between Mexico and the IMF and between

---

<sup>42</sup> The details of this operation are documented in: BISA 2.403 – *Banco de Mexico, Policy*, vol. 1.

<sup>43</sup> Boughton (2001), 301.

Mexico (with strong IMF support) and the private creditors continued. Finally, on 10 November 1982, a Letter of Intent was signed, giving Mexico access to the IMF extended fund facility in exchange for a mutually agreed and monitored structural adjustment programme. IMF Managing Director Jacques de Larosière insisted that, before the facility was granted by the IMF Board, the commercial banks needed to be brought on board with a commitment to raise their exposure to Mexico with no less than US\$ 5 billion in 1983. The only alternative, the IMF argued, was an outright default, which would have cost the banks a lot more and might even have caused a severe systemic financial crisis globally. After a lot of wrangling and high-powered negotiations, agreement was reached in early December. On 23 December 1982, the Executive Board of the IMF unanimously approved the arrangement under the extended fund facility, releasing a total of US\$ 3.75 billion in new loans to Mexico. Separate arrangements with the commercial banks were finalised in the early months of 1983. By February 1983, Lamfalussy was able to reassure the G10 Governors that “the international debt situation has been brought under control – at least for the time being”.<sup>44</sup> Repayment of the BIS credit facility was completed on time in August 1983.

In the final analysis, the crisis management had been relatively successful, at least in containing the spread of the crisis from the periphery to the core. As Lamfalussy (2000, 15) concluded many years later: “The crisis management ... prevented the Latin American payments crisis from developing into a full-blown international financial crisis with unpredictable *real* consequences for the world economy as a whole. Given the size of bank exposure to Latin America such a scenario was a genuine risk, although as with other systemic risks it is impossible to quantify it, even with hindsight”. An essential factor contributing to this outcome was the successful “bailing in” of commercial banks. This was by no means an easy exercise, but it was facilitated by the relatively straightforward nature of the problem – one sovereign debtor faced with a finite number of lending banks – and by the fact that the available BIS banking statistics, in spite of their shortcomings, made it possible to very quickly identify the markets, and hence the banks, that were most severely exposed.

---

<sup>44</sup> “The international debt situation: prospects for 1983 and policy options”, note Lamfalussy, 1 February 1983, BISA 7.18(15) – *Papers Lamfalussy*, LAM 35, 89. With hindsight, the 1982 rescue package would turn out to be only the start of a protracted process of managing Mexico's excessive indebtedness. A straight default was avoided, at least technically, but for many years to come Mexico was denied direct access to the international capital markets, instead going from one rescheduling exercise to the next until in 1990 a “final” debt-reduction agreement was negotiated under the Brady Plan. Moreover, Lamfalussy was not only referring to the Mexican crisis, but also to the debt crises in Argentina and Brazil, which both had been contained in similar fashion, including BIS bridging loans.

## **6 STRENGTHENING THE FINANCIAL SYSTEM AND THE BIS MACROPRUDENTIAL APPROACH**

The discussions held in the central bank community in the late 1970s (sections 3 and 4 above) threw up the question as to what were the short- and longer-term consequences of the Latin American debt crisis for these debates. How did this crisis affect the central banks' policy and research agenda over the following years? The impact of the 1982 crisis can be seen at three levels.

### **6.1 Improved monitoring**

First of all, there was a renewed impetus to improve monitoring of the international financial system (Clement 2010). The aim was to detect potential imbalances at an earlier stage with the hope of preventing a crisis. Surveillance and monitoring of the international financial system had of course been a constant theme. The most obvious tools for improving monitoring were accurate and timely financial and banking statistics. As early as 1974, in the wake of the Herstatt failure, the BIS had started publishing quarterly statistics on the euro-currency market. These were locational statistics, that is to say accounting for the international exposures of all banks active in a given country, whether domestic or foreign-owned, on a gross and non-consolidated basis (i.e. including exposures to own affiliates). Reporting was initially limited to the G10 countries. From 1978 onwards, these quarterly locational banking statistics were supplemented by semi-annual consolidated banking statistics, reporting the international financial claims of national (i.e. domestically-owned) banking systems vis-à-vis individual countries on a net and consolidated basis (i.e. excluding exposures vis-à-vis own affiliates) and broken down by maturity.

The need to further improve the accuracy and timeliness of these statistics had been stressed repeatedly. It was a major challenge, given the associated effort and costs. Moreover, the Latin American debt episode provided a sobering lesson as regards the usefulness and impact of such statistics. From the mid-1970s, data had been available showing that a hazardous situation was developing. But these data, and the warnings that came with them, went largely unheeded. In late 1982, the BIS had actually received complaints from commercial bankers about "an alleged lack of timely information of countries' external bank debt and, in particular, on the maturity breakdown of such debt".<sup>45</sup> When *The Economist* and the *Financial Times* reported in December 1982 that bankers "were not aware until the Mexican crisis broke just how big a lump of the country's debt was short-term", Lamfalussy refuted this vigorously, citing the banking debt figures published by the BIS since 1978: "by December 1980 anyone who cared to look at our figures could see that an increasing proportion of Mexico's external borrowing was

---

<sup>45</sup> Letter from Lamfalussy to the G10 Governors of 15.12.1982, BISA 1.3a(3)B – ECSC, vol. 5.

beginning to take the form of short-term credits ... by January 1982 the trend had become crystal clear. ...To put it bluntly, actual or potential creditors did have early warnings ... well before the eruption of the Mexican crisis in July 1982.”<sup>46</sup> This episode not only echoed one of the conclusions of the earlier Burns’ checklist initiative (see section 4.2) – namely that many banks were not aware of the existence of the BIS statistics – but it also underlined the old adage that as long as everything is going well and profits keep flowing in, few are prepared to take such warnings seriously.

The Latin American debt crisis sparked a renewed effort by the ECSC to improve banking statistics. The exercise undertaken in August 1982 to determine the exposure of countries’ banking systems to Mexico had revealed shortcomings in the available data (e.g. in comparing consolidated to unconsolidated figures). In their meeting on 27 September 1982 the G10 Governors requested the ECSC to implement as soon as possible improvements in the BIS international banking data.

A meeting of central bank statisticians on 3-4 March 1983 agreed to an improved reporting system for measuring the country exposure of national banking systems. At the same time, the geographical coverage of these statistics was expanded considerably and reporting delays were compressed.

The Latin American debt crisis bolstered the cooperation between the BIS and the other international financial and economic organisations, in particular the IMF and the OECD. Detailed banking statistics had already been shared with the IMF. The idea of combining BIS banking data on countries’ external indebtedness with debt figures collected by the OECD, was picked up again. It would lead to the publication, from spring 1984 onwards, of the joint OECD-BIS Statistics on External Indebtedness.<sup>47</sup>

## **6.2 Strengthening international banks**

Secondly, the Latin American debt crisis triggered a fundamental discussion on how to make internationally active banks more resilient in the face of future crises. There were two main themes in this respect: liquidity and capital.

Initially, much of the focus was on liquidity issues. In the run-up to the crisis, central banks had expressed concern that the interbank market contributed to excessive lending to high-risk non-bank borrowers (particularly, but not only, Latin American sovereign borrowers). Once the crisis started, the central bankers’ concern shifted to a potential lack of liquidity to keep the system afloat: would individual banks have sufficient access to liquidity, and could the interbank market be relied upon to continue to function normally?

---

<sup>46</sup> Letter to the Editor from Lamfalussy in the *Financial Times* (11.01.1983).

<sup>47</sup> And which since developed into the joint external debt hub ([www.jedh.org](http://www.jedh.org)), run jointly by the BIS, OECD, IMF and World Bank.



In March 1982, the ECSC had set up a study group on the international interbank market, chaired by David Holland of the Bank of England. Its report was discussed by the G10 Governors on 7 March 1983.<sup>48</sup> The conclusion was that it was difficult to attribute the concerns over excessive or inappropriate lending to the existence and functioning of the interbank market as such. Nevertheless, it seemed that the interbank market was perhaps too easily regarded as low-risk, both by the participants and by the supervisory authorities. This, it was argued, had a potentially negative impact on the banks' liquidity management, as they did not always adequately assess their dependence on the availability of funding from the interbank market. In fact, assets held on the interbank market were generally less liquid than claims on governments and monetary authorities.

The report did not have much to offer on how to resolve this problem. Market risk assessment and liquidity management were within the purview of the banks themselves and best left there. Certain prudential measures that might have been contemplated – i.e. accounting provisions against involuntarily rescheduled loans – were more within the mandate of the BCBS, which already had shown its reluctance to impose such measures. Still, it was tacitly recognised that, in extraordinary circumstances, authorities might be called upon to take extraordinary actions “which are inherently undesirable” to stop the spread of a market disturbance and guarantee the continued availability of sufficient liquidity.

For the sake of transparency, and to ensure that commercial banks would be aware of the authorities' considerations regarding the interbank market, the G10 Governors decided to publish the conclusions of the Holland Report.<sup>49</sup> For strategic reasons (to avoid moral hazard issues), the extraordinary measures that central banks *might* contemplate to counter a liquidity crisis were not made explicit in the published version of the report.

Once the worst of the crisis was over, liquidity concerns receded into the background and the focus shifted towards capital adequacy. This was not a new issue. The G10 central bank Governors had worried about the steadily eroding capital basis of internationally active banks for some time. The press statement they issued on 15 April 1980 to highlight the risks of increased international lending, reminded banks of the “cardinal importance ... of the maintenance of sound banking standards – particularly with regard to capital adequacy, liquidity and concentration of risks”.<sup>50</sup> The BCBS had subsequently been tasked with preparing a “report on the capital adequacy of banks operating internationally”. This report, discussed at the G10 Governors' meetings in Basel in July and September 1982, concluded that a lot of work remained to be done to achieve greater convergence in the national definitions of bank capital and to refine the techniques of

---

<sup>48</sup> “Report of the Study Group on the International Interbank Market”, 23 December 1982, BISA, 7.18(15) – *Papers Lamfalussy*, LAM 22, F61.

<sup>49</sup> “The International Interbank Market, A descriptive study”, *BIS Economic Papers*, 8 (July 1983), Basel.

<sup>50</sup> Bank for International Settlements (1980), *Fiftieth Annual Report*, Basel, 116-7.

capital adequacy measurement. However, there was no doubt that a further erosion of banks' capital ratios was undesirable. In fact, this BCBS paper laid the basis for agreement among the G10 central banks on a common framework towards an accord on capital adequacy. How this accord was eventually reached is outside the scope of this paper.<sup>51</sup> In a nutshell, the 1988 Basel Capital Accord was the result of gradual consensus-building within the BCBS, with the decisive impetus provided by a bilateral US-UK initiative to force through capital adequacy requirements for their own banks. This US-UK initiative had its direct origin in the Latin American debt crisis. The Mexico crisis had caught out the New York City banks with a weak capital basis. When the US Administration went to Congress to request additional funding for the IMF to help it finance the Mexico rescue package, Congress demanded as a *quid pro quo* stricter regulation on American banks in order to avoid a repetition of the international debt debacle. The Administration and the US banks were concerned that such a unilateral move would put American banks at a disadvantage vis-à-vis their international competitors. For that reason, the US, soon joined by the UK authorities, started to push hard for an international agreement on common minimum capital standards in order to create a level playing field. They found the ideal forum in the BCBS, where these same issues had already been discussed at length and where a consensus was slowly crystallising. The 1982 debt crisis was the decisive catalyst for the 1988 Basel Capital Accord (Basel I).

The flipside of this focus on capital adequacy was, however, relative neglect of the liquidity issue. As Goodhart (2011, 318) rightly observed: "In the event, discussion on capital adequacy received an enormous boost in the early 1980s, especially in the aftermath of the Mexico-Argentina-Brazil crisis ... whereas review and analysis of liquidity issues languished comparatively".

### **6.3 Towards a macroprudential approach?**

Thirdly, the Mexico crisis highlighted the inadequacy of a purely domestic, micro-prudential approach to banking supervision and regulation. Since the 1974 Herstatt crisis, efforts had been made to define and adopt common international standards. It was now clear that these efforts needed to be complemented with a "macroprudential" approach.

Macroprudential in this context was understood to refer to concerns over the stability of the global financial system as a whole and its link with the macro-economy (section 4). It also implied the use of prudential tools with the explicit objective of promoting the stability of the system as a whole. The 1982 Latin American debt crisis revived the earlier discussion, without, however, leading to a decisive breakthrough.

As the BIS's Economic Advisor (and Assistant General Manager), Alexandre Lamfalussy was very concerned about the potential macro-economic or systemic implications of the

---

<sup>51</sup> See Goodhart, 2011, 146-96.

Mexico crisis. Based in part on discussions with commercial bankers at the IMF-World Bank meetings in Toronto in September 1982, he produced a note for the G10 central bank Governors entitled “The current position and policies of the G10 countries’ commercial banks: some macro-economic and ‘macroprudential’ issues”. His main concern was the danger of a systemic crisis in a context of weak economic growth, high interest rates and persistent structural imbalances. If international bank lending were to dry up as a result of the debt crisis, this might well trigger a global economic depression and further undermine the position of the banks themselves. In Lamfalussy’s view, a variety of measures might be considered to deal with this macro-economic threat. A traditional monetary policy intervention was the most obvious one: a sizeable reduction in short-term interest rates would immediately alleviate the debt burden for sovereign and corporate borrowers alike, particularly since a substantial proportion of debt was held in floating-rate instruments. So, an innovation that in a time of rising (real) interest rates had exacerbated the debt crisis, might be helpful if interest rates were to decline. Secondly, liquidity support by the central banks and monetary authorities, like that arranged for Mexico in August 1982, would be hard to refuse to others in a similar predicament (as the cases of Argentina and Brazil would indeed demonstrate). The resources at the disposal of the IMF ought therefore to be increased. Thirdly, the problem might be tackled at its root: the destabilising maturity profile of international bank debt. Lamfalussy argued that in a crisis context the orderly rescheduling of debt of the most exposed countries “should be positively encouraged rather than simply accepted as a last-resort measure”.<sup>52</sup> Finally, some macroprudential tools might be considered in the context of the regular banking supervision and regulation process. These would typically pertain to the regulation of the banks’ capital and balance sheet, for instance through the imposition of country risk limits, capital surcharges, and loan loss provisions.

In fact, the only, rule-based macroprudential tool that resurfaced persistently in the context of the post-Mexico discussions was the proposal to force banks to set aside provisions to cover problem loans to sovereign borrowers (loan-loss provisions); an idea that had already been rejected by the BCBS back in 1979. Besides this, serious consideration was also given to a discretionary macroprudential tool *par excellence*, that of supervisory warnings. These warnings could take different forms. Authorities might warn market participants about the build-up of particular risks in the system. Some of the G10 central banks and the BIS itself had in fact done so – through their regular publications or in public speeches – well before the outbreak of the Latin American debt crisis. A serious drawback of such warnings is that they may have adverse effects if they turn into self-fulfilling prophecies. Public statements are even more problematic when their primary

---

<sup>52</sup> Lamfalussy, A., “The current position and policies of the G10 countries’ commercial banks: some macro-economic and ‘macroprudential’ issues”, BISA, 7.18(15) – *Papers Lamfalussy*, LAM 35, 89, p. 9.

motive is not so much to caution but to reassure markets and strengthen the banks' confidence in the stability of the banking system. In a bid to avoid panic spreading, the IMF used its September 1982 meeting to urge banks to judge the creditworthiness of individual countries on their own merit and to refrain from large-scale withdrawal from international lending. In the wake of the Mexico crisis, the G10 Governors briefly considered whether there was a case for issuing a statement along the lines of the press communiqué on lender-of-last-resort arrangements issued in September 1974 following the Herstatt crisis. As it was felt that such a statement might overdramatise the situation and therefore might do more harm than good, the idea was quietly dropped. As for the discussion on loan-loss provisions: this eventually got caught up in the negotiations on the Basel Capital Accord.

The BIS macroprudential approach came first publicly to the fore in the Cross Report on innovations in international banking (1986). It thus became very closely associated with financial innovations in the 1980s-1990s. In the late 1970s, the potential impact of financial innovation (floating-rate instruments) on financial stability was not discussed much. This changed by the mid-1980s. The 1983 BIS *Annual Report* devoted a chapter to financial innovations and their impact on financial markets and monetary policy.<sup>53</sup> In a presentation given to the American Economic Association, Lamfalussy (1985) focused on financial fragility. He emphasised the accelerating speed of financial innovation and explicitly raised the issue of whether financial innovations improve systemic stability. Later, Lamfalussy (1986) gave a negative answer to this question. His argument was strongly influenced by his experience of the Latin American debt crisis (Maes, 2009). In his view, the shift to generalised use of floating interest rates in medium-term bank loans, during the petrodollar recycling, allowed banks to protect themselves against the erosion of their margins of intermediation. However, it also had the effect of passing on short-term market interest rate movements to borrowers. With negative real interest rates in the 1970s, credit demand was stimulated, leading to a period of over-expansion. The return to positive real interest rates in 1979 placed a "crippling" burden on many debtors. The ensuing debt crisis threatened the world financial system. It was for Lamfalussy a clear argument in favour of a "macroprudential" approach, complementing the micro-prudential supervision of financial institutions.

The rapid development of derivatives markets and the increasing securitisation, in the 1980s and 1990s, brought new vulnerabilities that raised macroprudential concerns, not only in the periphery but also in the core of the world economy. The macroprudential approach rose to real prominence in the context of the global financial crisis that started in 2007-08 in the United States. It has been argued that the BIS approach has two

---

<sup>53</sup> BIS, *Fifty-third Annual Report*, Basel: BIS, June 1983, pp. 32-61.

distinguishing features (Borio, 2009). Firstly, it focuses on the financial system as a whole, paying attention to the macro-economic dimension of financial crises. Secondly, it treats aggregate risk in the financial system as dependent on the collective behaviour of the financial institutions (which might be contrasted with the micro-prudential view, where individual financial institutions are regarded as having no influence on the global situation). Compared to the late 1970s, the concept has gained in depth and dimension (Borio, 2011). But, ultimately, the goal of a macroprudential approach remains what it has been since the term was first used in the late 1970s and that is to limit the risks and costs of systemic crises.

## **7 CONCLUSION**

The Latin American debt crisis of the 1980s was the first postwar global financial crisis. Although the crisis started in the "periphery", it constituted a threat to the "core" of the world economy, as the banking system was under severe pressure. The G10 central banks acting through the Bank for International Settlements (BIS) played an important role in the management of this crisis, especially in the provision of "bridging loans" (before IMF stabilisation loans could be granted). Moreover, BIS statistics were invaluable for policy-makers to quickly identify the banks involved in the debt crisis and the extent of their exposures. The crisis management was quite successful, at least by preventing it spreading from the periphery to the core of the world economy.

This paper clearly shows that there was a high degree of concern in the central banking community in the 1970s about the debt build-up in the periphery. Alexandre Lamfalussy, the BIS Economic Advisor, from early on emphasised that a borrowers' market had been developing, stimulated by loose monetary policies and the US current account deficit. However, in the analysis of the debt build-up, the role of financial innovations was not really captured. There were several BIS-coordinated efforts at slowing down foreign lending. In 1976, Lamfalussy proposed to create a "risk office" at the BIS in order to collect crucial information on a limited number of systemically important banks. The BIS took the lead in the "Burns' checklist" initiative, aimed at raising awareness among the main international banks about sovereign risks. Furthermore, Lamfalussy argued strongly for the use of prudential instruments (like capital ratios) to moderate credit growth, and was thus an early proponent of a macroprudential approach to financial stability. However, policy-makers did not succeed in agreeing on any concrete initiatives. This was partly related to differences in analysis and policy objectives. A major stumbling block was also the competitive position of the banks of the different countries. Moreover, the Basel Committee on Banking Supervision was keen not to be distracted from its micro-prudential mission. It proved impossible to reach a consensus on macroprudential measures.

The Latin American debt crisis was at the origin of significant efforts at strengthening the international financial system. The authorities, also the BIS, improved their monitoring efforts, especially the statistical apparatus. Furthermore, there were efforts to make the banking system more resilient. This would eventually lead to the 1988 Basel Capital Accord. However, attempts to strengthen liquidity in the banking system faded. The rapid build-up of external debt in the periphery in the late 1970s was also the first occasion on which the central bank community at the BIS reflected on a macroprudential approach to financial stability. These discussions proved to be influential in shaping the BIS view. Over time, the BIS developed a broad approach to financial stability, "marrying" the micro- and macroprudential dimensions. A crucial lesson from the Latin American debt crisis is certainly the need to combine microprudential information (for instance on financial innovations) with the macroprudential approach.

## REFERENCES

- Archives: Banca d'Italia, Roma (BdIA)  
Bank for International Settlements, Basel (BISA)  
National Bank of Belgium, Brussels (NBBA)
- Axilrod, S., 2009, *Inside the Fed*, Cambridge: MIT Press.
- Bank for International Settlements, 1986, *Recent Innovations in International Banking*, Report prepared by a Study Group established by the Central Banks of the Group of Ten Countries (Cross Report), Basel.
- Battilossi, S. and Y. Cassis (Eds.) (2002), *European Banks and the American Challenge: Competition and Cooperation in International Banking under Bretton Woods*, Oxford: Oxford University Press.
- Borio, C., 2009, The macroprudential approach to regulation and supervision, *Vox*, 14 April.
- Borio, C., 2011, *Rediscovering the macroeconomic roots of financial stability policy: journey, challenges and way forward*, BIS Working Papers, n° 354, Basel.
- Boughton, J. M., 2001, *Silent Revolution, The International Monetary Fund 1979-1989*, Washington: IMF.
- Clement, P., 2008, Introduction: Past and Future of Central Bank Cooperation, in Borio, C., Toniolo, G. and Clement, P. (eds.), *Past and Future of Central Bank Cooperation*, Cambridge: Cambridge University Press pp. 22.
- Clement, P., 2010, The term 'macroprudential': origins and evolution, *BIS Quarterly Review*, March, pp. 59-67.
- Crockett, A., 2000, Marrying the micro- and macroprudential dimensions of financial stability, BIS Speeches, 21 September.
- Diaz-Alejandro, C. F., 1984, Latin American debt: I don't think we are in Kansas anymore, *Brookings Papers on Economic Activity*, No. 2, pp. 335-403.
- Dornbusch, R., 1986, *Dollar, Debts and Deficits*, Cambridge: MIT Press.
- Eichengreen, B. et al., 2013, *The Eurozone Crisis: Phoenix Miracle or Lost Decade?*, BEHL Working Paper Series, WP2013-05.
- Goodhart, C., 2003, A Central Bank Economist, P. Mizen (Ed.) *Central Banking, Monetary Theory and Practice*, Vol. 1, Cheltenham: Edward Elgar, pp. 13-62.
- Goodhart, C., 2011, *The Basel Committee on Banking Supervision, A History of the Early Years 1974-1997*, Cambridge: Cambridge University Press.
- James, Harold, 1996, *International Monetary Cooperation Since Bretton Woods*, Washington-New York: IMF-Oxford University Press.
- Kim, K. S., 1986, *Mexico: the Debt Crisis and Options for Development Strategy*, The Kellogg Institute for International Studies, Working Paper 82.
- Kraft, J., 1984, *The Mexican Rescue*, New York: Group of Thirty.

- Lamfalussy, A., 1976, *La Centralisation des Risques Bancaires*, 9 December, Luxembourg, BIS Archives, file 7.17 - Speeches.
- Lamfalussy, A., 1978, *The Role of the Private Banking System in International Financing*, Remarks to the International Banking Conference "Lending Policies and Practices", January 19, New York, BdIA, Carte Baffi 209.
- Lamfalussy, A., 1985, *The Changing Environment of Central Bank Policy*, *American Economic Review*, Vol. 75, No. 2, May, pp. 409-414.
- Lamfalussy, A., 1986, *Worldwide Competition in Financial Markets: Issues for Banking Supervisors*, 23 October, Amsterdam Conference of Banking Supervisors, BISA, file 7.17 - Speeches.
- Lamfalussy, A., 2000, *Financial Crises in Emerging Markets. An Essay on Financial Globalisation and Fragility*, New Haven: Yale University Press.
- Maddison, A., 1985, *Two crises: Latin America and Asia, 1929-38 and 1973-83*, Development Centre of the OECD, France.
- Maes, I., 2007, *Half a century of European financial integration. From the Rome Treaty to the 21st century*, Foreword by Ph. Maystadt, Brussels: Mercatorfonds.
- Maes, I., 2009, *On the origins of the BIS macroprudential approach to financial stability: Alexandre Lamfalussy and financial fragility*, National Bank of Belgium, Working Paper Research, no 176, *PSL Quarterly Review*, Vol. 63, No. 254, 2010, p. 265-292.
- Maes, I., 2011, *Alexandre Lamfalussy et les tentatives de la BRI de prévenir un endettement excessif de l'Amérique latine dans les années 1970*, *Histoire, Economie et Société*, Vol. 30, Décembre 2011, p. 52-77.
- Marichal, C., 2010, *Nueva Historia de las Grandes Crisis Financieras. Una perspectiva global, 1873-2008*, Madrid, Editorial Debate.
- Meltzer, A., 2009, *A history of the Federal Reserve*, Volume 2, Book 2, 1970-1986, Chicago, University of Chicago Press.
- Schenk, C., 1998, *The origins of the Eurodollar market in London, 1955-1963*, *Explorations in Economic History*, 35, 2, pp. 221-38.
- Toniolo, G. (with the assistance of P. Clement), 2005, *Central Bank Cooperation at the Bank for International Settlements, 1930-1973*, Cambridge: Cambridge University Press.



## NATIONAL BANK OF BELGIUM - WORKING PAPERS SERIES

The Working Papers are available on the website of the Bank: <http://www.nbb.be>.

189. "Inter-industry wage differentials in EU countries: What do cross-country time-varying data add to the picture?", by Ph. Du Caju, G. Kátay, A. Lamo, D. Nicolitsas and S. Poelhekke, *Research series*, April 2010.
190. "What determines euro area bank CDS spreads?", by J. Annaert, M. De Ceuster, P. Van Roy and C. Vespro, *Research series*, May 2010.
191. "The incidence of nominal and real wage rigidity: An individual-based sectoral approach", by J. Messina, Ph. Du Caju, C. F. Duarte, N. L. Hansen, M. Izquierdo, *Research series*, June 2010.
192. "Economic importance of the Belgian ports: Flemish maritime ports, Liège port complex and the port of Brussels - Report 2008", by C. Mathys, *Document series*, July 2010.
193. "Wages, labor or prices: how do firms react to shocks?", by E. Dhyne and M. Druant, *Research series*, July 2010.
194. "Trade with China and skill upgrading: Evidence from Belgian firm level data", by G. Mion, H. Vandebussche, and L. Zhu, *Research series*, September 2010.
195. "Trade crisis? What trade crisis?", by K. Behrens, G. Corcos and G. Mion, *Research series*, September 2010.
196. "Trade and the global recession", by J. Eaton, S. Kortum, B. Neiman and J. Romalis, *Research series*, October 2010.
197. "Internationalization strategy and performance of small and medium sized enterprises", by J. Onkelinx and L. Sleuwaegen, *Research series*, October 2010.
198. "The internationalization process of firms: From exports to FDI?", by P. Conconi, A. Sapir and M. Zanardi, *Research series*, October 2010.
199. "Intermediaries in international trade: Direct versus indirect modes of export", by A. B. Bernard, M. Grazzi and C. Tomasi, *Research series*, October 2010.
200. "Trade in services: IT and task content", by A. Ariu and G. Mion, *Research series*, October 2010.
201. "The productivity and export spillovers of the internationalisation behaviour of Belgian firms", by M. Dumont, B. Merlevede, C. Piette and G. Rayp, *Research series*, October 2010.
202. "Market size, competition, and the product mix of exporters", by T. Mayer, M. J. Melitz and G. I. P. Ottaviano, *Research series*, October 2010.
203. "Multi-product exporters, carry-along trade and the margins of trade", by A. B. Bernard, I. Van Beveren and H. Vandebussche, *Research series*, October 2010.
204. "Can Belgian firms cope with the Chinese dragon and the Asian tigers? The export performance of multi-product firms on foreign markets" by F. Abraham and J. Van Hove, *Research series*, October 2010.
205. "Immigration, offshoring and American jobs", by G. I. P. Ottaviano, G. Peri and G. C. Wright, *Research series*, October 2010.
206. "The effects of internationalisation on domestic labour demand by skills: Firm-level evidence for Belgium", by L. Cuyvers, E. Dhyne, and R. Soeng, *Research series*, October 2010.
207. "Labour demand adjustment: Does foreign ownership matter?", by E. Dhyne, C. Fuss and C. Mathieu, *Research series*, October 2010.
208. "The Taylor principle and (in-)determinacy in a New Keynesian model with hiring frictions and skill loss", by A. Rannenberg, *Research series*, November 2010.
209. "Wage and employment effects of a wage norm: The Polish transition experience" by A. de Crombrughe and G. de Walque, *Research series*, February 2011.
210. "Estimating monetary policy reaction functions: A discrete choice approach" by J. Boeckx, *Research series*, February 2011.
211. "Firm entry, inflation and the monetary transmission mechanism" by V. Lewis and C. Poilly, *Research series*, February 2011.
212. "The link between mobile telephony arrears and credit arrears" by H. De Doncker, *Document series*, March 2011.
213. "Development of a financial health indicator based on companies' annual accounts", by D. Vivet, *Document series*, April 2011.
214. "Wage structure effects of international trade: Evidence from a small open economy", by Ph. Du Caju, F. Rycx and I. Tojerow, *Research series*, April 2011.
215. "Economic importance of the Belgian ports: Flemish maritime ports, Liège port complex and the port of Brussels - Report 2009", by C. Mathys, *Document series*, June 2011.
216. "Verti-zontal differentiation in monopolistic competition", by F. Di Comite, J.-F. Thisse and H. Vandebussche, *Research series*, October 2011.

217. "The evolution of Alexandre Lamfalussy's thought on the international and European monetary system (1961-1993)" by I. Maes, *Research series*, November 2011.
218. "Economic importance of air transport and airport activities in Belgium – Report 2009", by X. Deville and S. Vennix, *Document series*, December 2011.
219. "Comparative advantage, multi-product firms and trade liberalisation: An empirical test", by C. Fuss and L. Zhu, *Research series*, January 2012.
220. "Institutions and export dynamics", by L. Araujo, G. Mion and E. Ornelas, *Research series*, February 2012.
221. "Implementation of EU legislation on rail liberalisation in Belgium, France, Germany and the Netherlands", by X. Deville and F. Verduyn, *Document series*, March 2012.
222. "Tommaso Padoa-Schioppa and the origins of the euro", by I. Maes, *Document series*, March 2012.
223. "(Not so) easy come, (still) easy go? Footloose multinationals revisited", by P. Blanchard, E. Dhyne, C. Fuss and C. Mathieu, *Research series*, March 2012.
224. "Asymmetric information in credit markets, bank leverage cycles and macroeconomic dynamics", by A. Rannenberg, *Research series*, April 2012.
225. "Economic importance of the Belgian ports: Flemish maritime ports, Liège port complex and the port of Brussels - Report 2010", by C. Mathys, *Document series*, July 2012.
226. "Dissecting the dynamics of the US trade balance in an estimated equilibrium model", by P. Jacob and G. Peersman, *Research series*, August 2012.
227. "Regime switches in volatility and correlation of financial institutions", by K. Boudt, J. Danielsson, S.J. Koopman and A. Lucas, *Research series*, October 2012.
228. "Measuring and testing for the systemically important financial institutions", by C. Castro and S. Ferrari, *Research series*, October 2012.
229. "Risk, uncertainty and monetary policy", by G. Bekaert, M. Hoerova and M. Lo Duca, *Research series*, October 2012.
230. "Flights to safety", by L. Baele, G. Bekaert, K. Inghelbrecht and M. Wei, *Research series*, October 2012.
231. "Macroprudential policy, countercyclical bank capital buffers and credit supply: Evidence from the Spanish dynamic provisioning experiments", by G. Jiménez, S. Ongena, J.-L. Peydró and J. Saurina, *Research series*, October 2012.
232. "Bank/sovereign risk spillovers in the European debt crisis", by V. De Bruyckere, M. Gerhardt, G. Schepens and R. Vander Vennet, *Research series*, October 2012.
233. "A macroeconomic framework for quantifying systemic risk", by Z. He and A. Krishnamurthy, *Research series*, October 2012.
234. "Fiscal policy, banks and the financial crisis", by R. Kollmann, M. Ratto, W. Roeger and J. in't Veld, *Research series*, October 2012.
235. "Endogenous risk in a DSGE model with capital-constrained financial intermediaries", by H. Dewachter and R. Wouters, *Research series*, October 2012.
236. "A macroeconomic model with a financial sector", by M.K. Brunnermeier and Y. Sannikov, *Research series*, October 2012.
237. "Services versus goods trade : Are they the same?", by A. Ariu, *Research series*, December 2012.
238. "Importers, exporters, and exchange rate disconnect", by M. Amiti, O. Itkhoki and J. Konings, *Research series*, December 2012.
239. "Concording EU trade and production data over time", by I. Van Beveren, A.B. Bernard and H. Vandenbussche, *Research series*, December 2012.
240. "On the origins of the Triffin dilemma: Empirical business cycle analysis and imperfect competition theory", by I. Maes, *Research series*, December 2012.
241. "The Influence of the Taylor rule on US monetary policy", by P. Ilbas, Ø. Røisland and T. Sveen, *Research series*, January 2013.
242. "Economic importance of the Belgian ports: Flemish maritime ports, Liège port complex and the port of Brussels - Report 2011", by C. Mathys, *Document series*, July 2013.
243. "The fragility of two monetary regimes: The European Monetary System and the Eurozone", by P. De Grauwe and Y. Ji, *Research series*, October 2013.
244. "Funding liquidity, market liquidity and TED spread: A two-regime model", by K. Boudt, E. C.S. Paulus and D. W.R. Rosenthal, *Research series*, November 2013.
245. "Robustifying optimal monetary policy using simple rules as cross-checks", by P. Ilbas, Ø. Røisland and T. Sveen, *Research series*, November 2013.
246. "Household and firm leverage, capital flows and monetary policy in a small open economy", by M. Pirovano, *Research series*, November 2013.
247. "The BIS and the Latin American debt crisis of the 1980s", by P. Clement and I. Maes, *Research series*, December 2013.