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BONDS OR CREDITS? RISK MANAGEMENT AND SOVEREIGN LENDING IN THE EUROMARKETS: EVIDENCE FROM MEXICO, 1973–1982

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Abstract

This paper examines sovereign lending to Mexico in the Euromarkets during the decade preceding the 1982 international debt crisis, focusing on the interaction between syndicated bank credits and international bonds. While existing scholarship has largely treated Eurocredit and Eurobond markets as separate channels of sovereign finance, this article shows that, in Mexico's case, they were closely intertwined and jointly shaped by the strategies of international banks. Drawing on original datasets covering all syndicated credits and Eurobond issues to Mexico during this period, complemented by bank-level evidence and archival material from Lloyds Bank International, we demonstrate that leading international banks arbitrated between bonds and credits in response to changes in country risk and macro-financial conditions. During periods of heightened distress, banks moved away from direct lending toward bond issuance, expanded syndicates, and reduced individual exposures as part of coordinated risk-management strategies. The analysis also uncovers a hierarchy in international lending in which leading market-making banks shaped access to sovereign finance while reallocating risk across instruments and institutions globally.[1]

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1. Introduction

The Euromarkets are widely regarded as one of the most consequential financial innovations of the postwar era, providing the institutional framework from which today's international financial system ultimately evolved. What began with the relocation of Soviet dollar deposits to European banks in the early Cold War progressively developed into a set of offshore markets where currencies could circulate outside the jurisdiction of their issuing states (Schenk 1998). During the heavily regulated Bretton Woods decades, this space operated at the margins of domestic oversight, allowing banks to expand cross-border activities and devise new instruments of international financial intermediation (Battilossi 2000; BIS 1986; Moffitt 1984). The successive emergence of the Eurobond market and, later, the Eurocredit market transformed this domain into the main engine behind the revival of global capital markets after the Great Depression collapse (Helleiner 1996; Norman 2008; O'Malley 2015). Many of the practices international banks forged there—syndication, country risk assessment, and liability management—as well as the financial centres from which they operated—mainly London, but also Luxembourg, and Caribbean tax havens, among others—became integral to the architecture of modern finance.

The developing world played a main role in the expansion of Euromarkets and their consolidation as the platform of international finance and sovereign debt markets. After the collapse of Bretton Woods and the gradual easing of capital controls in the early 1970s at the beginning of the new era of financial globalization, commercial banks from both advanced and developing economies broadened their international networks, establishing a stronger presence in London and other major financial centres and deepening their involvement in Euromarket activities (Altamura 2016; Alvarez 2023; Pecchioli 1983). As large volumes of dollar liquidity from oil-exporting countries flowed into these offshore markets after the 1973 oil shock, international banks intensified their sovereign lending to developing countries, particularly in Latin America (Alvarez 2019; Sgard 2023). This surge in cross-border capital flows —the core of the so-called petrodollar recycling process— came along with the rapid expansion of the Euromarkets themselves and a simultaneous rise in developing countries' external debt (Bergsten, Cline, and Williamson 1985; Cline 1984; Sachs 1989), a development that eventually culminated in the international debt crisis of the 1980s, the first major global financial meltdown since the Great Depression.

This article examines the development of sovereign lending in the Euromarkets during the decade leading up to the 1982 international debt crisis from a supply-side perspective.[2] To date, scholarship has largely studied the functioning and development of the Eurobond and Eurocredit markets separately.[3] On the one hand, substantial literature on the Eurobond market has emphasized its origins since the landmark Austrade issue of 1963, its subsequent institutional consolidation, and its primary role as a financing venue for governments and large corporations from industrial countries (Dosoo 1992; Gallant 1988; Kerr 1984). On the other hand, studies of the 1980s debt crisis have focused predominantly on syndicated Euroloans, the instruments through which developing countries amassed most of their external debt during the 1970s (Cline 1995; Devlin 1989; Lissakers 1991; Stallings 1987). This article offers a novel perspective by bringing these two markets together in the analysis of sovereign finance and international lending during the lead-up to the debt crisis of 1982. There are strong grounds for thinking that the two markets were not truly separate, given that, as the article will demonstrate, banks simultaneously participated in both, suggesting that bond and credit operations may have been linked through a more coordinated approach to lending and risk management.

To investigate these intertwined market dynamics, we focus on the case of Mexico. The choice of Mexico makes compelling sense for several reasons. It was not only one of the largest sovereign borrowers in the

[2] While borrowers are important players in the development of sovereign debt markets, in this paper we focus on lenders and intermediaries tackling the issue from the standpoint of the banks in similar lines to the approach of Flandreau and Flores (2009), Flandreau and Zumer (2004), and Mauro, Sussman, and Yafeh (2006) for the first financial globalization and Özler (1993), Devlin (1978, 1989), Stallings (1987), Guttentag and Herring (1985, 1986), and Wellons (1987) for early years of the second financial globalization leading to the 1982 international debt crisis.

[3] See, for instance, Mendelsohn (1980) and more recently Roberts (2001) and Bartel (2020).

developing world—and the single biggest debtor to international commercial banks—but also the country whose moratorium in August 1982 sent shock waves through the global financial system, transforming mounting financial pressures into a full-scale worldwide crisis (Boughton 2001; Volcker and Gyohten 1992). Moreover, Mexico stood out for its dual presence in both Euromarkets: while it was the leading recipient of Eurocredits from international banks, it also remained an active issuer in the Eurobond market, a role largely understated in existing accounts (Gurría 1993; Kraft 1984; Negrete Cárdenas 1999). Indeed, although international bank loans accounted for the overwhelming majority of Mexico's external debt on the eve of the crisis, international bonds were relatively more important than foreign loans during the early 1970s. The interplay between its bond issuance and its much larger volume of credit offers a unique opportunity to investigate the questions at the center of this article: What relationship, if any, existed between Eurocredit and Eurobond markets in sovereign finance? What factors shaped banks' decisions to extend credit and/or place bonds in the Euromarkets?

Methodologically, the article combines macro, micro, and case study analyses to capture how the two Euromarkets operated in practice from different angles and perspectives. First, we trace macro trends using aggregate data on country-level lending-borrowing dynamics.[4] Second, we link these patterns to microdata on individual bank operations to observe how institutions that participated simultaneously in bond and credit markets behave. Third, we ground these findings in qualitative evidence and primary archival materials by focusing on the case of Lloyds Bank International (LBI), a major actor in both Eurobond and Eurocredit activities and in international lending to Mexico.[5] Finally, we complement this triangulation with descriptive regression analysis to test the statistical significance of the interpretations emerging from the historical quantitative and qualitative evidence. Our analysis draws on original datasets that compile all Eurobonds and syndicated credits issued by Mexico during the period under study, which allows us to examine the interplay between these markets with a detail not previously possible. While Mexico's prominence as a large oil producer and one of the main sovereign borrowers of the 1970s makes it a distinctive case, its systemic importance renders it an ideal vantage point for assessing how leading international banks coordinated their strategies more broadly across the Euromarkets and managed risk in the crucial years preceding the 1982 crisis.

Scholarly interpretations of the international bank credit boom and the evolution of Eurobonds during the run-up to the 1980s debt crisis have generally seen these markets as largely distinct channels of sovereign finance. This article contends that, at least in Mexico's case, they operated as alternative yet complementary mechanisms under the coordinated strategies of international banks, particularly the major global market-making institutions. We argue that these banks arbitrated between the two, with their choices driven primarily by risk-management considerations, favouring bonds over credits during periods of heightened financial distress and rising country risk. Moreover, this study confirms the existence of important market structures while demonstrating significant differences in the strategic behaviours among international lending banks: a small circle of leading banks dominated the markets and brought in more marginal participants during challenging macroeconomic and financial conditions, effectively shifting risk away from their individual balance sheets while increasing it at the consolidated market level.[6] By analysing syndicate composition, we introduce a key methodological innovation based on an insider/outsider distinction which provide evidence that supports this interpretation.

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[4] In this paper, we follow the OECD (1996)' s definitions of bonds and loans, which we report in Appendix 1. We use loans and credits interchangeably. However, we use the terms 'lending' and 'borrowing' to generally refer to both bonds and loans/credits together.

[5] LBI ranked among the top ten international lenders to Mexico out of more than 400 creditor banks (Negrete Cárdenas 1999). Indeed, after the outbreak of the crisis it became also a member of the Bank Advisory Committee—the group of thirteen institutions selected on the basis of their exposure and geographic representation to negotiate on behalf of all bank creditors—serving as the representative for UK banks. Although other major lenders could also serve as relevant case studies, LBI is the only commercial bank for which comprehensive archival records are available both on their lending activities and the subsequent renegotiations, making it uniquely suited for in-depth analysis.

[6] The market structure we observe in our data suggests a distinction between established market makers ('insiders') and more peripheral lenders ('outsiders'). The precise empirical classification of these groups is detailed in Sections 6 and 7.

The article also contributes to the literature on international finance and banking in the developing world in the years preceding the 1982 crisis. The emphasis, and integration of, both credit and bond markets into a unified analysis of international lending to Mexico is a central feature of this study. Yet, although discussions of Mexico's external debt have focused primarily on loans and portray Eurobonds as instruments for developed countries, its involvement in this market has not gone unnoticed. The country was an active issuer in the international bond market from the early 1960s—well before the surge in syndicated credit borrowing following the 1973 oil shock—and expanded its use of bond financing in the run-up to the crisis. What has remained unexamined, however, are the timing and dynamics of these bond issues and the patterns underlying their evolution and behaviour. This article is the first to analyse these issues systematically, showing that the allocation between bond and credit financing, as well as the size and composition of syndicates, reflected strategic decisions made by Mexico's lending banks.

The remainder of the paper is structured as follows. Section 2 provides the historical background, discussing Euromarket lending mechanism and Mexico's role as a sovereign borrower. Section 3 examines the dynamic in sovereign lending, highlighting the shifts between bonds and credits throughout the period. Section 4 explores the risk management strategies employed by leading lending banks. Section 5 examines the relationship between syndicate size membership and lending commitments. Section 6 investigates the role of insider and outsider banks in the market. Section 7 describes the data and empirical analysis. The article concludes by discussing the broader implications of the main findings on the Mexican case for the historiography of the Euromarkets at a broader market level and the financial history literature on capital markets.

2. Historical Background

The Euromarkets—i.e. the markets for financial instruments denominated in a foreign currency outside their country of issue—became the powerhouse of international banking and global finance from the 1960s through the onset of the 1980s debt crisis. Operating beyond the reach of national regulatory frameworks and monetary controls, they provided the institutional platform through which private commercial banks expanded their international activities, from trade finance and foreign exchange operations to sovereign lending and financial services for multinational firms. At the core of this system stood the Eurocurrency market, which accounted for between two-thirds and four-fifths of all Euromarkets transactions over the period.[7] It consisted primarily of short-term dollar deposits held by banks mainly in European financial centres, alongside deposits denominated in other major international currencies—Deutsche Marks, Swiss Francs, and Pounds Sterling—located outside their home jurisdictions. A large and growing share of these Eurocurrency funds circulated through interbank redeposits, supplying international banks with an increasingly important source of global wholesale liquidity.

The rapid expansion of the international interbank market underpinned major structural innovations in international banking and sovereign finance during this period. Departing from the traditional reliance on customer deposits, banks increasingly shift toward wholesale banking and the adoption of liability management—namely, banks' active use of short-term debt instruments with varying maturities, rates, and currencies of denomination to fund and adjust their growing asset portfolios (Battilossi 2010). As large volumes of US-dollar liquidity flowed into international banks, especially after the 1973 oil shock, these funds were channelled through the Eurocurrency interbank market, providing banks with a deep and flexible pool of loanable resources. This expanding capacity for interbank borrowing and redepositing laid the foundation for the rise and subsequent expansion of the Eurocapital markets, enabling banks to secure the funding necessary to support their international lending operations.

Two main markets and lending mechanisms for sovereign finance evolved within this institutional framework. On the one hand, the Eurobond market (i.e., the market for long-term fixed-interest or floating-rate bonds denominated in foreign currencies issued outside the borrower's home country) was the first to emerge, gaining traction since the first fully-fledge issuance by Autostrade in 1963 and increasingly integrating with the US international bond market.[8] On the other hand, the Euroloan market, which developed later towards the end of 1960s, came to increasingly dominate international lending throughout

[7] See Battilossi (2019), Alvarez (2019), and McKinnon (1977).

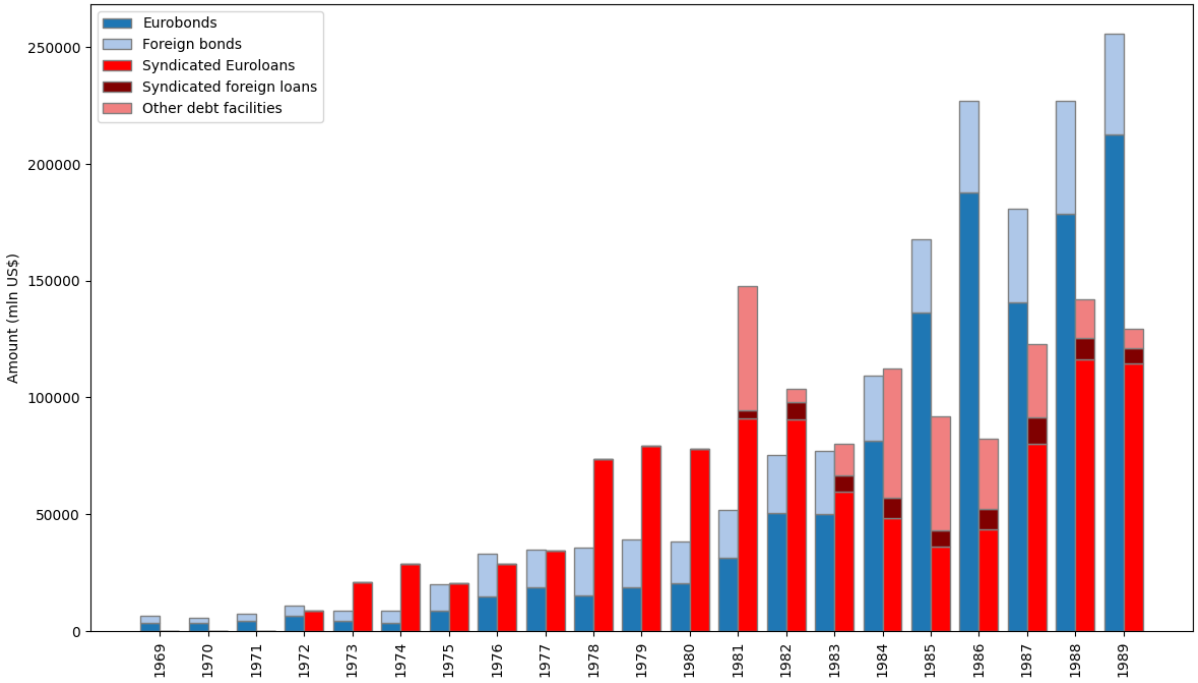
[8] On the history and early origins of the Eurobond market see O'Malley (2015) and Einzig (1969) respectively

the 1970s. It consisted of medium-term credits in foreign currency generally provided on a floating rate basis tied to LIBOR or the US prime rate. International credits denominated in dollars could be also granted from the US or finance with dollars raised in the US and transferred to other country through the international Eurodollar market or the other way around (Battilossi 2002, 2019). Banks played a central role in both markets, arranging the issuance and underwriting of the bonds and directly funding the loans.

Figure 1 illustrates the development of the international bond and credit markets between 1969 and 1989. The chart plots the total amount of issues of Eurobonds and foreign bonds per year along with syndicated euro and foreign loans as well as other lending facilities. Syndicated lending, which involved issuing a bond or granting a loan through a group or syndicate of banks, was a salient feature of the sovereign debt markets and the primary international lending strategy (Cassis 2006). During the 1960s, bonds exclusively dominated the market, but in the early 1970s, particularly following the first oil crisis, syndicated loans experienced a significant rise. In the mid-1970s, both bonds and syndicated loans grew, with a particularly sharp increase in bond issuance around 1975-76. The late 1970s saw a boom in credit issuance which culminated in 1981-82 when the international debt crisis broke out, prompting a shift toward increased bond issuance and reduced loan volumes onwards, except for crisis-related credits (Benzie 1992).

<< Figure 1 around here >>

Figure 1: New Issues of International Bonds and Credits (1969-1989)



Notes: The figure displays the total annual issuance amount (in US dollars) for different segments of the international capital markets. It compares the volume of international bonds (Eurobonds and foreign bonds) with syndicated loans (Euroloans and foreign loans) and other lending facilities.

Source: OECD (1996)

Developing countries were a main driver of sovereign finance and the international credit markets in the 1970s, and Mexico was at the heart of these processes. With a wealth of oil reserves and a government in eager search of funding to finance its development programs, the country became a preferred destination for international lenders, and, along with other countries in Latin America, became a heavy borrower in the world capital markets. Between 1972 and 1982, as the Euromarkets and petrodollar recycling process expanded, Mexican external debt passed from US$ 7.4 billion to 84.1 billion: a 11.3 times increase in a decade (an average rate of growth of 27.5 percent per year). A major sovereign debtor, when in August 1982 the country announced a moratorium in the service of its external bank obligations, it sent shock waves through the world financial system, unleashing crises at an international level (Cline 1984). Moreover,

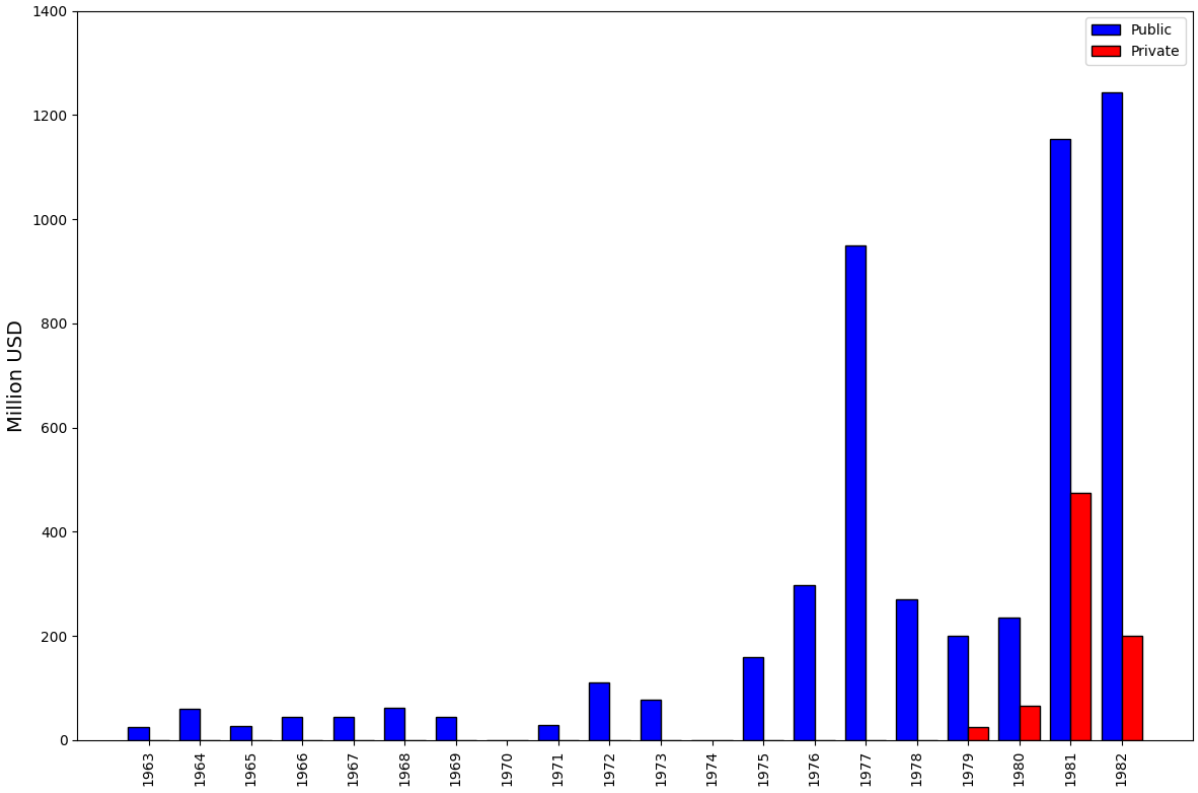
Mexico was the country at the forefront of debt negotiations and financial firefighting during most the decade, with rescheduling deals that set a pattern of crisis management for other indebted countries.[9]

International bank loans or Eurocredits were the main source of funds for Mexico. As of 1983, total bank lending represented US$75.1 billion or as much as 90 percent of the country's total outstanding liabilities to non-official creditors (which in turn accounted for as much as 91 percent of its total external debt). Medium and long-term international loans to the Mexican public and private sector accounted for US$ 48.1 and 16.5 billion respectively, while the remaining US$ 10 billion consisted of short-term trade credit lines and interbank deposits. These debts were owed by more than 500 creditor banks from all over the world that had been actively lending to Mexico as part of the lending boom in the Euromarkets. On the other hand, outstanding publicly issued international bonds reached US$ 4.5 billion or 5.3 percent of Mexico's private creditors, while the balance of US$ 5.2 billion or 6.1 percent corresponded to other public sector creditors.[10]

Although international credits were the primary vehicle for international borrowing, Mexico participation in the international bond market was not as insignificant as it might first appear. An inspection at the International Bond Manual published by the Association of International Bond Dealers (AIBD) reveals that the country issued more international bonds than has hitherto been assumed. In fact, while the literature considers the Eurobond market as chiefly used by developed countries and premium borrowers, Mexico, a developing country, actively participated since the early stages of the market. Figure 2 shows the evolution of bonds issued by and loans granted to Mexico during those years. Between 1963 and 1972, the country issued 20 bonds in the international capital markets for 837 million, becoming Mexico's main instrument of sovereign finance at the time. The situation changed with the rise of syndicated lending and the recycling of petrodollars after the oil shock of 1973, but Mexico kept borrowing in the international bonds markets all throughout the decade and in larger amounts than the previous period.

<< Figure 2 & 3 around here >>

Figure 2: Mexican Foreign Bonds (Amount Issued)

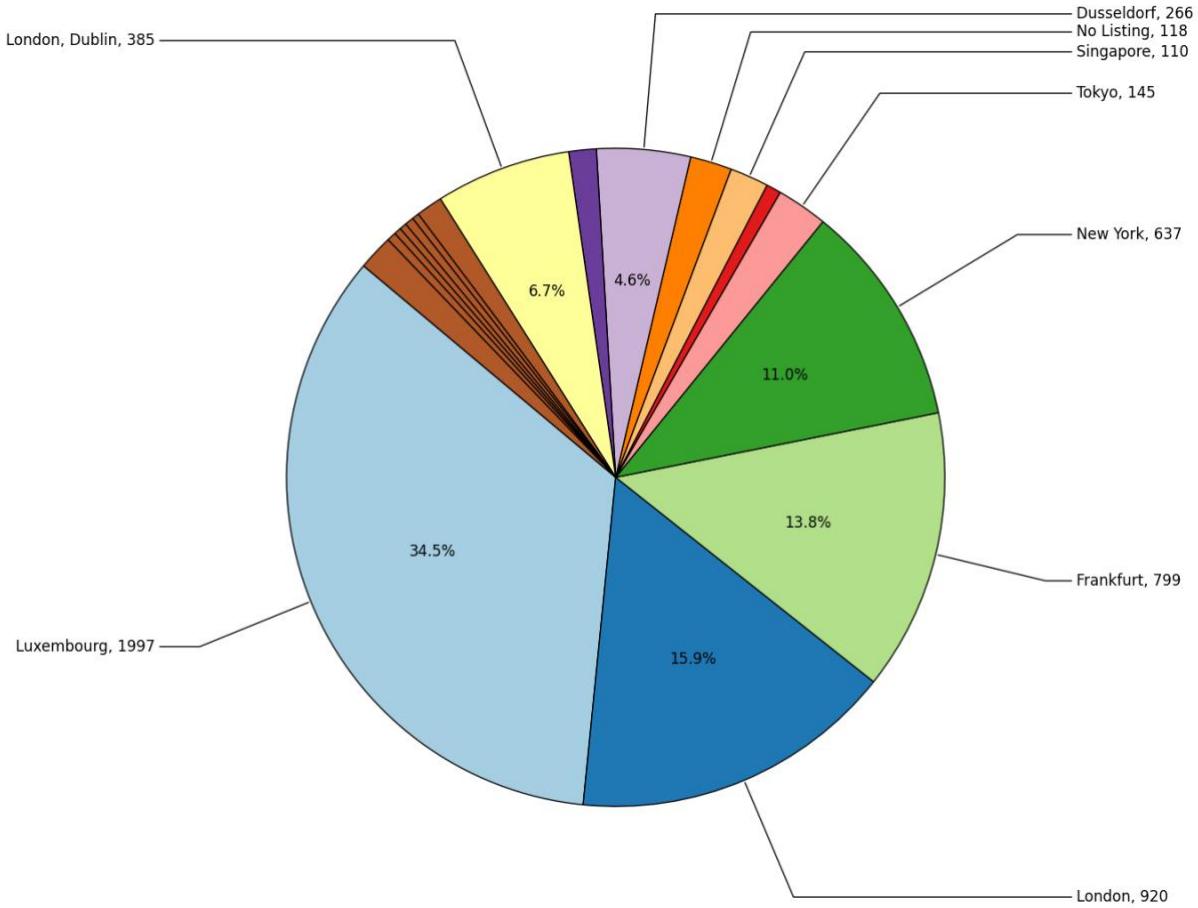


[9] See, among others, Krugman (1994) and Boughton (2001).
[10] See Alvarez (2019), Table 6.1, p. 180.

Notes: The figure shows the total annual amount (in millions of US dollars) of new international bonds issued by Mexico versus new syndicated loans granted to Mexico.

Sources: AIDB The International Bond Manual (1978 and 1982)

Figure 3: Place of listing (amount issued mln $)



Notes: The figure shows the distribution of Mexican international bond issuances by their primary place of listing. It highlights the percentage share of major financial centers such as Luxembourg, London, Frankfurt, and New York.

Sources: AIDB The International Bond Manual (1978 and 1982)

Mexico's participation in the international bond market was broad in scale and scope. Between 1963 and 1982, the country issued international bonds every year (with the exception of 1970 and 1974) for a total of US$ 5.8 billion, 86.5 percent corresponding to the Mexican public sector and the remaining 13.5 percent to the private sector. The US dollar was the dominating currency accounting for as much as 70 percent of total issuances followed by the Deutsche Mark with 20 percent and the remaining 10 percent in other nine currencies. Luxembourg was the main marketplace for Mexican bonds, accounting for more than a third of total issuances followed by London and Frankfurt with 16 and 14 percent each, and then New York with 11 percent (Figure 3). There were also bonds listed in other financial places in Germany, Switzerland, Ireland, Singapore, and Japan, which illustrate the reach of Mexico as an international bond borrower.

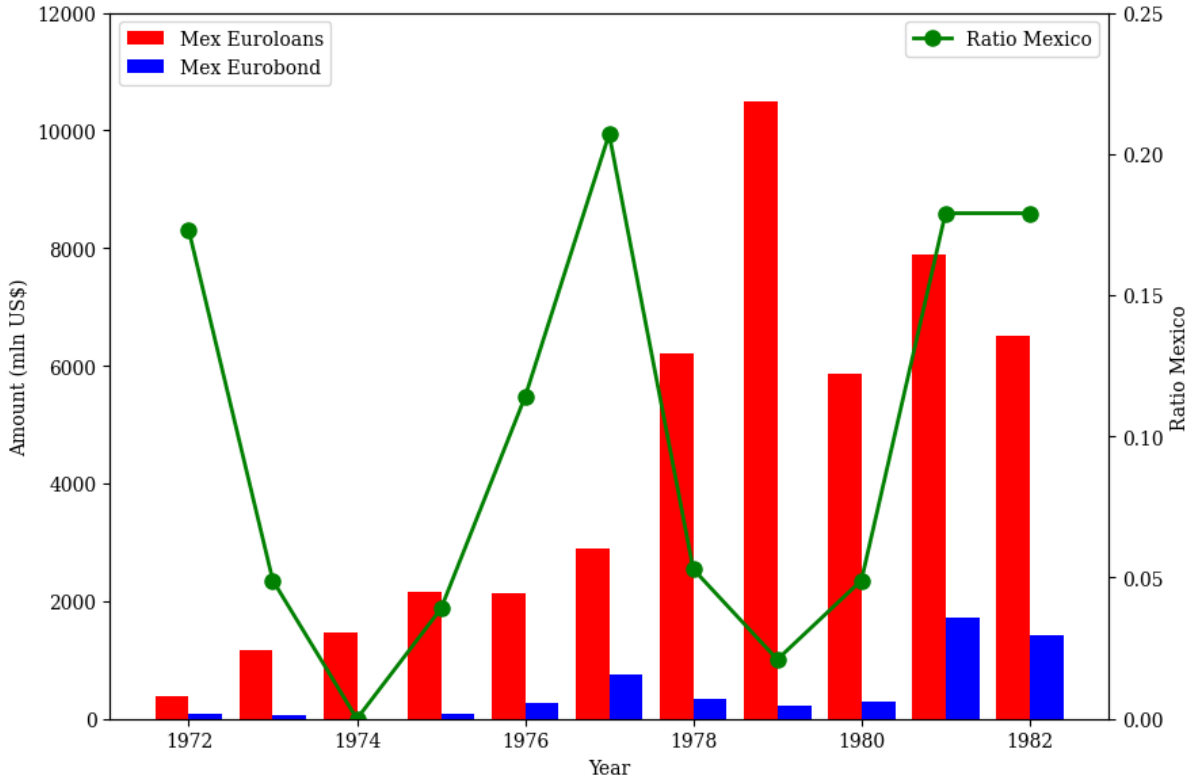
3. W-Shaped Dynamic in Sovereign Lending

Mexico's simultaneous engagement in the syndicated credit and international bond markets raises the question of whether there was a relationship between these two instruments. How did their relative importance shift over time in response to changing market conditions? Did one instrument displace the other at particular moments? While syndicated credits unquestionably became the dominant channel of

sovereign finance in absolute volumes, the relative trend is far less straightforward. Figure 4 plots total new Eurobond issues and total syndicated Eurocredits (both in US dollars) for 1972–1982, along with the ratio between them. A ratio of 1 indicates equal volumes of bond and credit financing, while values below (above) 1 correspond to years in which bonds were less (more) significant than credits. As the figure illustrates, the relative weight of the two instruments fluctuated markedly throughout the decade—even during the peak years of syndicated lending in the 1970s—producing the W-shaped pattern discussed in this section.

<< Figure 4 around here >>

Figure 4: New issues in Eurobonds and Eurocredits
Mexico (mln US $, 1972-1982)



Notes: The figure plots the ratio of the total amount of new Eurobond issues to the total amount of new syndicated Eurocredits annually. A ratio equal to one means that bond and credit lending were of the same magnitude for that year

Sources: OECD (1996), Negrete Cardenas (1999), AIBD (1978,1982)

After the decline in the ratio in the early 1970s as Eurocredit lending gained traction, the relative importance of bonds increased sharply in the mid-1970s and again in the early 1980s. In both cases, these peaks coincided with periods of significant financial tension and macroeconomic distress in Mexico. In 1976, the country experienced its first major currency crisis after more than two decades of exchange-rate stability, and it entered an Extended Fund Facility (EFF) agreement with the IMF for the first time in 15 years. As the economy stabilized and credit markets normalised in 1977–78, the ratio fell, only to rise again toward the end of the decade, repeating the earlier pattern. Indeed, following the second oil shock in 1979 and the subsequent increase in international interest rates after the so-called Volcker Shock, Mexico's external position deteriorated once more, and the bond ratio climbed again. By then, Mexico's external debt had already moved onto an unsustainable path that would culminate in the August 1982 default.

The international lending dynamics in the months preceding the outbreak of the Mexican crisis reveal the extent of the shift in funding instruments. Between January and August 1982, amid a second currency crisis and another devaluation of the peso with the country progressively moving toward the moratorium on bank-loan interest payments, Mexico still received 28 syndicated credits totaling US$8,622 million. In parallel, international banks arranged 23 Eurobond issues worth US$5,679 million—an unusually large share of bond financing given the deteriorating macroeconomic and financial environment. That so many Eurobond placements went ahead, and that they provided increasing volumes of funding approaching those of the otherwise dominant syndicated-loan market in the final months before default, is striking. Although misjudgments of Mexico's liquidity position, shifts in how risks were priced and distributed as the crisis accelerated, and the need of banks to supply fresh funds or roll over existing credit lines to maintain debt service can help account for this pattern, we also examine whether this late surge in Eurobond issues also reflected a last-ditch attempt by banks to offload exposure.

These figures describe aggregate market dynamics but leave open whether similar behavior appears at the level of individual banks. Table 1 lists the main lead managers in syndicated lending to Mexico between 1963 and 1982, among which LBI offers an illustrative case.[11] Unlike Citibank and Bank of America, whose involvement was concentrated in credits and who only entered the bond market late in the 1970s, LBI participated regularly in both segments. Over the period, it joined 24 syndicated Eurocredits to Mexico totaling US$8,101 million and arranged 24 syndicated bond issues totaling US$1,731 million. After its first operations in 1974, LBI took part in syndicated credits almost every year until 1982 (except 1980), acting as lead manager in four operations between 1974 and 1976, five per year between 1977 and 1979, one in 1981, and four in 1982. Its participation in syndicated bonds, however, was less continuous and more concentrated in periods of acute financial strain for Mexico. Following two issues in 1968 and 1972, LBI arranged five bonds in 1977 and thirteen in 1981–82, compared with none in 1978 and only two per year in 1979–80. In the run-up to the crisis (1981–82) it issued 2.6 times more bonds than credits, whereas in 1978–80 it undertook 2.5 times more credits than bonds. These patterns mirror the aggregate evidence and indicate that LBI shifted toward bond rather than credit lending when default risks intensified.

<< Table 1 around here >>

Table 1: Top lead managers in Syndicated lending to Mexico, 1963-1982

	Eurocredit			Eurobonds		
	Number	Amount (mln $)	First issue	Number	Amount (mln $)	First issue
Citibank	34	15,360	1975	18	1,287	1976
Bank of America	39	26,089	1971	13	1,019	1979
Lloyds Bank International	24	8,101	1974	24	1,731	1968
Westdeutsche Landesbank	23	13,834	1974	24	1,353	1969
Manufacturers Hanover	23	18,496	1973	23	1,702	1976
Bank of Tokyo	34	19,849	1973	10	960	1977
Intermex	28	8,494	1975	15	1,153	1977
Crédit Lyonnais	17	12,646	1973	23	1,734	1972
Swiss Bank Corporation	9	8,900	1976	31	1,790	1968
Deutsche Bank	11	9,486	1976	28	1,456	1967
Société Générale	17	13,553	1973	21	1,560	1972
Merrill Lynch International Bank	5	473	1977	33	2,362	1971

[11] These were the major international banks and central players in the Euromarkets, ranking at the top of *The Bankers*' ranking of the world's biggest banks in terms of assets and among the leading managers in syndicated credit markets. See The Bankers' Top 300 World Banks and McDonald (1983), Exhibit 4.5.

Dresdner Bank	15	7,851	1974	22	1,142	1968
Royal Bank of Canada	26	8,722	1974	11	871	1980
Chemical Bank	29	18,184	1973	5	325	1979

Notes: The table ranks the top 15 international banks based on their participation as lead managers in syndicated credit and bond operations for Mexico. It shows the number of operations and total amount (in millions of US dollars) for credits, bonds, and the total for each bank.

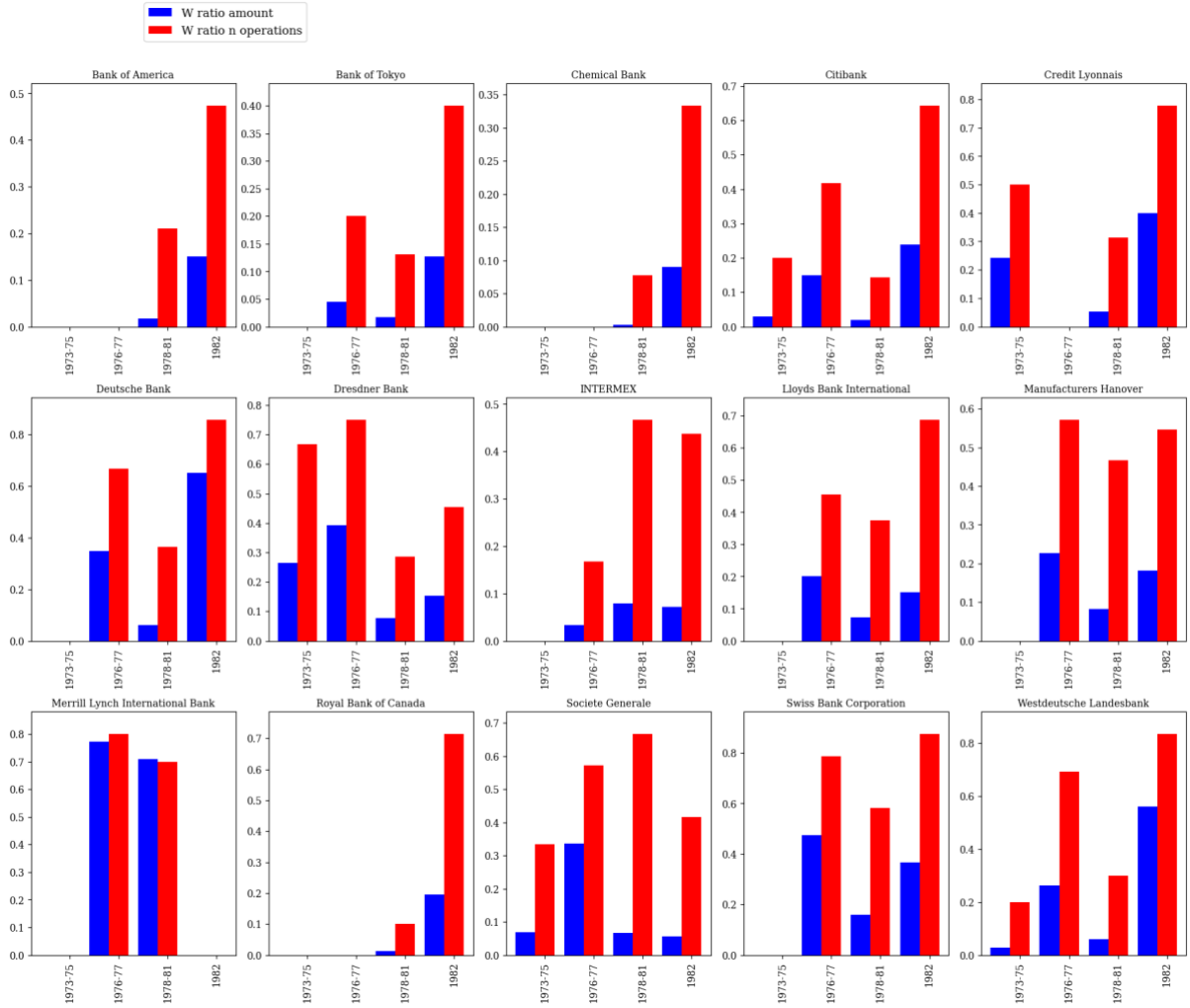
Source: see Appendix 2

Figure 5 deepens this analysis by examining how far this pattern extended across the main international banks lending to Mexico. It reports the Eurobond-to-Eurocredit ratio (W-ratio) for the 15 largest lead-manager banks in syndicated lending to Mexico, both in terms of amounts and number of operations. Because banks rarely participated in both bond and credit operations every year—and, when they did, the small number of transactions made annual ratios excessively volatile—we calculate the ratio over three broader subperiods aligned with changes in Mexico's macroeconomic stability.[12] The results at the bank level align closely with the aggregate market trends: 11 of the 15 banks show higher shares of bond relative to credit operations during the crises periods of the mid 1970s and early 1980s, whether measured by amounts or by number of transactions. This indicates that the leading international lending banks to Mexico actively extended syndicated credits during more stable periods, while systematically shifting toward bond underwriting as country risk increased. Market-wide turbulence therefore did not affect all lending instruments equally, but rather shaped the deliberate choices made by individual banks.

<< Figure 5 around here >>

[12] We exclude the first three years of the 1970s because the number of syndicated loans granted to Mexico during that period is too small to yield a meaningful ratio.

Figure 5: Bank W Ratio at micro (bank) level by periods



Notes: The figure displays the "W-ratio" for each of the 15 top lead manager banks listed in Table 1. The ratio is shown for four distinct sub-periods reflecting different levels of macroeconomic stability in Mexico. The periodization is defined in Appendix 2. The W-ratio is calculated based on both the amount and number of operations. A ratio equal to one means that bond and credit lending were of the same magnitude for that year

Source: see Appendix 2

Two related mechanisms may explain this systematic change from credits to bonds during periods of rising country risk. First, the nature of the lending instruments differs fundamentally in terms of information requirements and risk allocation. Bank loans typically involve direct monitoring and private information about borrower quality—what the literature calls "inside debt" where lenders act as delegated monitors (Diamond 1984; Fama 1985). Bonds, in contrast, constitute "outside debt" that relies on arm's-length relationships and public information (Rajan 1992). During stable periods, banks may have preferred to retain loans on their balance sheets to internalize the rents from their monitoring activities and superior information. However, when private information raised concerns about Mexico's solvency, banks may have found advantageous to shift toward underwriting bonds, effectively transferring informationally sensitive exposures to outside investors as in Gorton and Pennacchi (1995), representing "originate-to-distribute" model where the screener no longer bears the ultimate default risk.

Second, and perhaps most importantly, the implications of a sovereign default were fundamentally different for bonds than for syndicated credits. Because sovereigns do not default uniformly across debt instruments—often excluding some obligations from restructuring or granting preferential treatment to

specific creditor groups—an implicit hierarchy of claims emerges in international sovereign finance. Instruments that are harder to restructure are, in practice, less likely to be defaulted on by distressed borrowers (Bolton and Jeanne 2009). In this sense, whereas syndicated bank loans were concentrated among a relatively small and clearly identifiable group of creditors—coordinated through the 'London Club'—bonds were dispersed across anonymous and geographically scattered investors and were typically governed by unanimity clauses requiring all bondholders to consent to any modification of payment terms.[13] This resulted in structural restructuring asymmetry that created a *de facto* seniority of bonds over bank loans, an understanding widely shared among market participants in the Eurobond and Eurocredit markets.[14] This logic would also help to explain the incentives for risk shifting even when banks retained bonds on their own balance sheets: although they did not necessarily offload exposure to the public, the type of instrument they held was less likely to generate losses.

The ex-post management of the Mexican sovereign debt crisis aligned with these logics and implications. After declaring a moratorium in August 1982, the Mexican government approached the international financial community and entered negotiations with its foreign creditor banks, working in coordination with creditor-country governments and the IMF. A Bank Advisory Group, chaired by William Rhodes of Citibank, was established to coordinate among Mexico's international creditor banks and negotiate on their behalf. Central banks and financial authorities played a central role in this process, using regulatory pressure and moral suasion to push commercial banks to accept rescheduling terms in order to avert systemic collapse. As a result, bank creditors were effectively "bailed in" through concerted lending programs organized by regulators and the IMF, whereas dispersed bondholders—beyond regulatory reach and impossible to coordinate—remained largely untouched by restructuring (Alvarez 2018; Krugman 1994). Indeed, Mexico continued servicing its international bonds without interruption throughout the 1980s, as did several other Latin American defaulting countries (Sgard 2023).

4. Bank international lending and risk management strategies

The involvement of commercial banks in international lending raised new challenges in risk assessment and management. Since the Great Depression, the inward orientation of banking activity meant that risk assessment focused on individual local or national projects, their cash flows, and the creditworthiness of domestic borrowers. Because of financial regulations or bank internal procedures, specific lending rules governed the risk profile of the loan portfolio and bank exposures. For instance, in the US and most Western countries, credits granted to a single client could not exceed a certain percentage of the bank's capital base and total assets, limiting risk concentration. By contrast, sovereign lending in the Euromarkets fell outside the scope of national regulations and introduced risks not contemplated in banks' standard management procedures for their domestic credit activities.

One way lending across national borders challenged traditional assessments of a borrower's repayment capacity concerned both currency-related exposures and broader so-called country risk. In addition to conventional credit risk, banks had to assess other types of uncertainties associated with the macro-financial situation of the foreign country, along with idiosyncratic political considerations and social factors that could jeopardize the capacity of the borrower to repay its debts (Mendelsohn 1981). Poor macroeconomic fundamentals, currency crises, and the need for IMF assistance negatively affected the country's creditworthiness and sovereign risk.[15] Like domestic credits, banks established limits on lending to specific countries regarding capital and reserves or external or total assets as a measure of internal prudential portfolio control. These country limits, which could be revised upward or downward depending on the

[13] On banks coordination and the London Club see Rieffel (1985, 2003) and Rhodes (1994).

[14] See Bolton and Jeanne (2005), Section 2, pp. 7-11.

[15] While IMF programs typically occurred during moments of macroeconomic distress and were thus associated with weak sovereign creditworthiness, they also introduced a potential element of moral hazard into international lending, as banks may have perceived the Fund's involvement as an implicit guarantee that countries would be supported in case of repayment difficulties. See Vaubel (1983) and Sgard (2016).

bank and country situations, could include several categories reflecting different kinds of business exposure.[16]

While specific limits could vary according to circumstances, the consolidated amount of all cross-border lending facilities provided the yardstick of country exposure. The archival records on the international lending operations of Lloyds Bank International (LBI) illustrate how this operated internally. Formed in 1974 as the result of the consolidation of Lloyds Bank's international operations with the merging of two subsidiaries (Bank of London and South America (BOLSA) and Lloyds Bank Europe),[17] LBI became a world leader in the Euromarkets and in the issuing and arrangement of syndicates of lead managers of bonds and credits to Mexico. LBI was part of the Lloyds Bank Group and a main driver in the increasing share of international business throughout the 1970s and early 1980s, with the Euromarkets being a central component.[18] Since 1975, all LBI-authorized international lending operations have been included in the Quarterly Results Reports of the Confidential Board Papers in tables containing information on the borrower's balance sheet and industry, the type of facilities, lending branches, and financial terms of each deal, the internal country limit, and LBI's current outstanding exposure.[19]

Table 2 shows the authorized credit lines of LBI to Mexico between 1975 and 1982, along with the evolution of outstanding claims and country limit levels. During this period, LBI lent a total of US$ 1,754.6 million to Mexican borrowers. US$ 581 million (or 33.1%) of this amount consisted of direct credit lines, followed by syndicated and trade credits with US$ 507.1 and 476.4 million (28.9 and 27.5%), respectively. In 1981 and 1982, with the country already heading into the crisis, LBI lent US$ 190.1 million of bridging loans to fill the gap and cover the payment of previous debts. Notably, while direct credits were virtually the only source of credit between 1975 and 1977, trade-finance and syndicated credits in particular became increasingly important during the lead-up to the 1982 crisis. This illustrates, as the discussion below and the next section develop, the asset management strategy of the bank and the use of less risky lending instruments. Table 2 shows that with outstanding claims close to the ceiling in 1978, LBI increased the country limit and significantly lent to Mexico in 1979. The banks' country exposure increased up to 1980, starting to fall afterward and reducing then the limit by over a third in 1982.

<< Table 2 around here >>

Table 2: Lloyds Bank International Lending to Mexico, 1975-1982 (mln $)

	Type of lending					Total Outstanding	Country Limit
	Syndicated	Trade Credit	Direct Credit	Bridging	Total		
1975		12.0	178.0		190.0		
1976			61.0		61.0		
1977	30.0		85.0		115.0		
1978	50.2	40.0			90.2	497.3	550
1979	175.3	92.5	69.4		337.2	805.3	900
1980	2.5	89.0	4.5		96.0	865.1	900
1981	138.2	173.3	177.1	90.1	578.7	684.3	900
1982	110.9	69.6	6.0	100.0	286.5	656.0	575

[16] In maturity (short-term limit and medium term limit), in an individual borrower's limit (limits for banks, corporate, state entitities); and in relating to offsetting liabilities. These country limits could include several categories reflecting different types of business exposure, often bundled into a single 'credit facility,' which is a comprehensive agreement covering various forms of lending (e.g., direct loans, trade credits).

[17] See Schenk (2017).

[18] See Altamura (2023).

[19] We thank Wilfried Kisling for kindly sharing this data with us (Kisling and Schenk 2025).

Source: Kisling and Schenk (2025)
Notes: The table details the internal lending operations of Lloyds Bank International (LBI) with Mexico. It breaks down authorized credit lines by instrument type, and tracks the evolution of total outstanding claims against LBI's internal country limit. All values are in millions of US dollars

Total outstanding claims signalled country exposure and Mexican risk levels, but the specific risk profile of the portfolio depended on its composition. Indeed, not all lending instruments implied the same type or level of risk. The bank could alter the financial terms and conditions of a financial instrument and/or use alternative lending facilities to manage asset risk. As Irving S. Friedman, former IMF official and leading figure in the establishment of Citibank's country risk department, stated: "private bank loans [were] regarded as among the most conservative and cautious sources of lending," but banks also responded "to perceived future difficulties in countries by reducing exposure or changing its composition to new level and mixtures deemed more appropriate."[20] Table 2 provides evidence of this dynamics at LBI. It shows that, for instance, the lending structure shifted when LBI's outstanding claims on Mexico reached US$805.5 million, approaching its country limit of US$900 million in 1979. Trade credit lines, which are short-term and involve fewer risks than medium or long-term loans, increased in absolute and relative terms, accounting for US$89 or 92.7 percent of the total US$96 million lending authorized in 1980.

The choice of lending instruments and their relative risk assessments were embedded in more complex, overarching arrangements. More often than not, banks did not lend solely through trade credits, direct credits, or syndicated loans to the borrower, but combined all these forms of lending within a single integrated operation. On August 3, 1981, for instance, LBI authorized a deal with Pemex for US$222.3 million, which involved six different lending instruments: US$ 50 and 30 million in direct short and medium-term direct credits, US$ 25 million in ECGD buyer credits, US$ 10 million in underwriting bond issues, and US$ 30 and 25 million in participation in acceptance credit and guarantee agreements respectively.[21] Overall, out of the 71 authorized-lending operations with Mexican borrowers recorded in the LBI Board's Quarterly Results Reports between 1975 and 1982, only 13 (less than 20 percent) involved just one single lending instrument. The remaining 68 consisted of either different credits with the same lending instrument (i.e. two or more different trade-credit lines) or a combination of several different lending instruments as in the example above. Thus, syndicated credits were part of a broader "lending package" along with other short, mid, and long-term direct credit facilities as Kisling and Schenk (2024) have argued.[22]

The rationale and structural nature of this lending practice become evident during negotiations and the management of the debt crisis after its outbreak. LBI, along with ten other major foreign lending banks to Mexico, formed the Bank Advisory Group responsible for the renegotiation of external debt on behalf of all creditor banks and ensuring their participation in the deals. As part of the debt management strategy, creditor banks came to reschedule past debts and committed to provide additional funding to Mexico, contingent upon the subscription of an IMF adjustment program.[23] This approach involved restructuring packages that renegotiated all claims together, including syndicated and direct credits, trade finance, and other lending facilities, thus considering the overall exposure to Mexico.[24] The main reason for integrating all restructuring and new lending into a single operation was to make sure that Mexico will count with enough resources to meet all its external bank obligations. Lending through syndicates or trade-credit lines

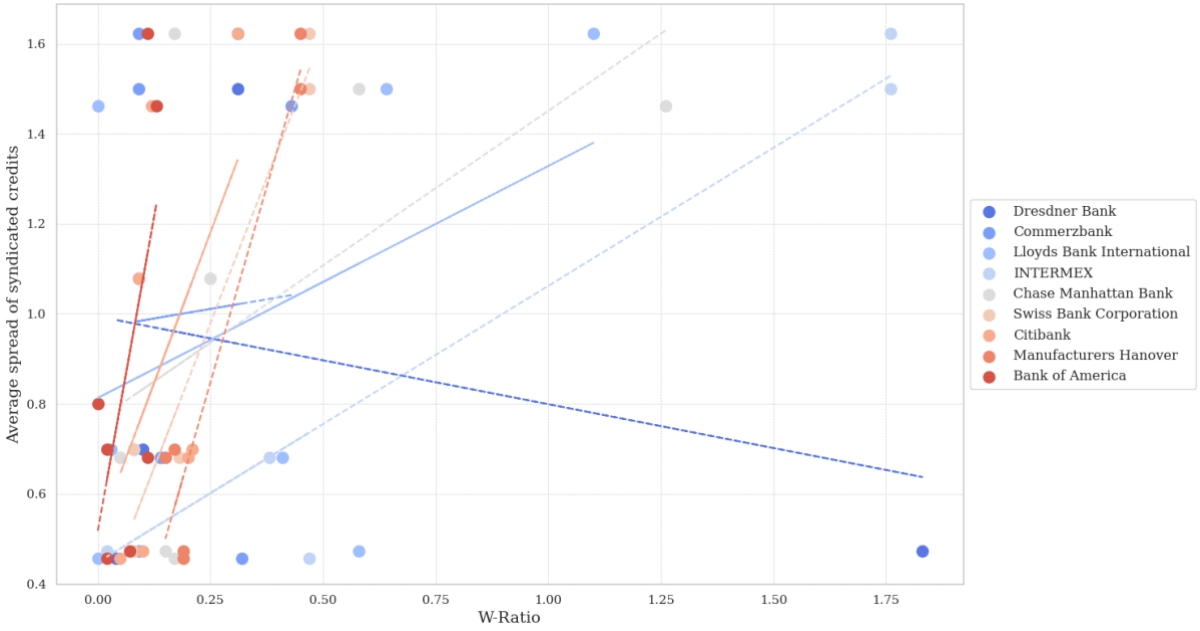
[20] Friedman (1983), p. 1-4, Friedman (1977), Rhodes (2011), and Sampson (1982), chapters 10 and 18. On country risk analysis during the 1970s, see Slobodian (2021).
[21] Lloyds archive: Image 1552592
[22] These 'lending packages' could include several categories reflecting different types of business exposure, often bundled into a single 'credit facility,' which is a comprehensive agreement covering various forms of lending (e.g., direct loans, trade credits).
[23] On the international debt management strategy and the role of banks within it see Devlin (1989), Cline (1995), and Boughton (2001).
[24] See Kisling and Schenk (2024)

may involve inherently different risks, but to the extent that a borrower relies on the availability of foreign exchange to service these debts, their repayment is ultimately interdependent. By combining and jointly providing funds through multiple instruments, banks could manage their portfolio risk while securing enough funding for the borrower to service all their claims.

Yet, a notable and significant lending instrument missing from Table 2 is bonds. Unlike credit facilities, LBI's internal lending reports did not systematically document bond operations, only recording some instances where bond issuance was part of more extensive lending arrangements with Mexican borrowers that included other credit facilities (as in the Pemex deal of August 3, 1981 explained above). This omission is noteworthy because LBI was heavily involved in syndicating several bond issuances to Mexico alongside Eurocredits. The likely reason for this differential treatment is that syndicated, direct, trade and bridging credits were considered outstanding claims on the bank's books and had to be managed within country limits, whereas bond issues were not. Since bonds could be sold on secondary markets, the issuance of Mexican securities was not concerned with country limits or increasing country exposure, as they were not necessarily booked in the bank's balance sheet. In 1981, when the country was reducing its exposure to Mexico, decreasing outstanding claims from US$ 865.1 million to US$ 684.3 million, LBI participated as lead manager in the issuance of seven syndicated Mexican bonds totaling US$ 510 million, compared to the involvement in only one syndicated credit for US$ 400 million. In a context where the service of Mexico's foreign debt depended on access to new financing, an additional advantage of bonds was that it allowed for securing the additional foreign exchange to the country for the payment of maturing bank debt with resources from investors.

<< Figure 6 around here >>

Figure 5: W-ratio vs. Average spread of syndicated credits



Notes: The figure plots the W-ratio against the average spread on LIBOR for Eurocredits for top lead managing banks that issued both bonds and credits in at least 5 distinct years. Each point represents a bank's lending preference (bond vs. credit ratio) at a given level of country risk, proxied by the spread. Dresdner bank displays a negative slope due to the 1981 outlier (when it issued only one bond and one credit) leading to a w-ratio of 1.81. If this outlier is removed, the slope turns strongly positive.

Source: see Appendix 2

From the banks' perspective, this unique distinguishing characteristic of bonds compared to bank credits made bonds particularly appealing as a lending instrument when country risk was high. Figure 6 plots the

annual W-ratio for top leaders in syndicated bond and credit lending to Mexico against the average spread on LIBOR or prime charged on Eurocredits for the corresponding year. This spread represented a fixed risk premium agreed upon when the credit was arranged, being closely related to the country's creditworthiness and, therefore, to the levels of country risk.[25] Overall, the plot shows positive relationships between spreads and the bond-to-credit lending ratio at the level of individual banks, suggesting the presence of a lending strategy that shift towards bond issuance over direct credit at times of macroeconomic distress in Mexico. This pattern is consistent with the market trends and individual bank lending behaviour described in the previous section, which provides further evidence supporting our contention that bonds were more frequently chosen as a preferred lending instrument during high-risk periods.

5. Syndicate Size and Lending Commitments

Risk management played a crucial role in the growing prevalence of syndicated lending in the Euromarkets and sovereign finance. As extensive research has highlighted, the technique of loan syndication, wherein a group of banks collectively funds a loan, enabled individual banks to diversify their loan portfolios more effectively. This lending strategy spread the risk of a large loan across multiple lenders, allowing the individual bank to limit its cross-border exposure and loan portfolio to exhibit less risk for a given income level. Thus, syndicated loans allowed banks to diversify more and manage country-specific lending limits more efficiently than direct loans.

While the advantages of syndication vis-à-vis one-on-one loans for risk diversification have been largely emphasized, the size of the syndicate has received much less attention. The number of banks in the syndicate is, however, an important aspect to consider for risk management purposes as it determines the contribution of each member bank to the lending operation.[26] Overall, the larger the size of the syndicate for a given amount of lending, the smaller the contribution of each member and thereby the lower the exposure of the lending banks to the borrower and its country. Thus, for lead managers – syndicate organizers – determining the size of the group is important not only because it affects the amount they commit to the operation but also because it determines the potential scope of the deal. For a given level of lending that a bank is willing to commit to a borrower or country, a larger syndicate would allow for scaling up the operation and lending higher amounts without increasing its individual exposure. Hence, it may be expected that in times of crisis or higher risks, the size of lending syndicates would be larger as banks may strategically look to reduce their exposure to the borrower.

Table 3 presents the syndicated credit and bond operations of LBI with Mexico from 1975 to 1982. In 1977, the average number of banks in the lead management group for five syndicated credits was 16.4, which decreased to 12 in 1978 and 10 in 1979, with both years also having five syndicated credit operations. Notably, not only was the syndicate size larger during the crisis year of 1977, but the average lending commitment of LBI per operation was smaller: $17.3 million compared to $57.7 million in 1978 and $40.9 million in 1979. A similar pattern emerged leading up to the debt crisis, with syndicate sizes increasing to 18 and 17 banks in 1981 and 1982, respectively, accompanied by significantly lower lending levels by LBI. These figures suggest a relationship between the size of the syndicate with risk considerations and banks' lending decisions. The data on syndicated bond deals is less clear, which would indicate that bonds, being sold rather than kept on the issuing banks' books, made syndicate size and lending commitments less relevant for country exposure and asset risk management. The table also highlights a higher reliance on bond lending during financial distress in Mexico, namely in the crisis years of 1977, 1981, and 1982, as discussed in the previous section.

<< Table 3 around here >>

[25] See Folkerts-Landau (1985) and Edwards (1984, 1986)

[26] Overall, lead managers were the primary subscribers of the operation, and they could then resell part of their respective quota.

Table 3: LBI syndicated bond and credits operation with Mexico (mln $)

	Credits			Bonds		
	Total operations	Average Syze	Average contribution	Total operations	Average Syze	Average contribution
1975						
1976	1	8.0	21.25			
1977	5	16.4	17.3	5	11.0	5.4
1978	5	12.0	57.7			
1979	5	10.0	40.9	2	12.5	4.9
1980				2	11.5	5.1
1981	1	18.0	22.2	7	12.6	5.8
1982	2	17.0	12.8	6	11.2	10.0

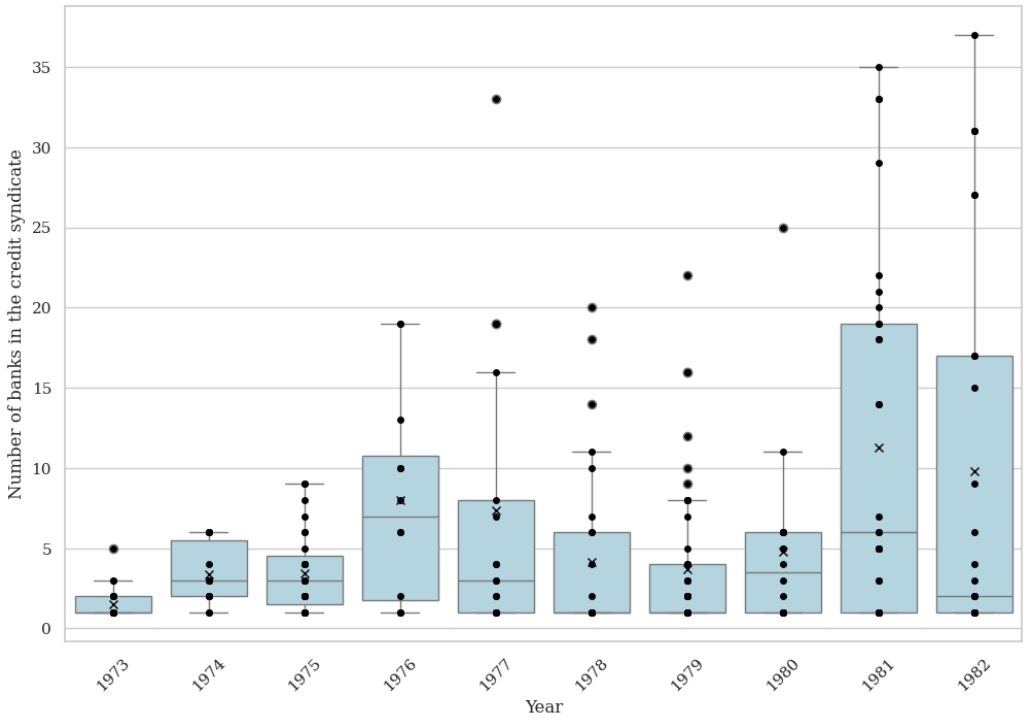
Notes: The table presents a year-by-year summary of LBI's syndicated operations with Mexico. For both credits and bonds, it details the number of deals, the total amount, the average size of the lead management group, and LBI's average lending or underwriting commitment per operation

An examination of syndicated lending to Mexico reveals a consistent, systemic pattern at the aggregate market level. Figure 7 plots all syndicated credits arranged between international banks and Mexican borrowers from 1973 to 1982, showing the number of banks in the lead management group for each operation.[27] It illustrates the distribution of syndicate sizes per year using boxplots. The boxplots of the years 1976-1977 and 1981-1982, two periods marked by significant macroeconomic distress and culminating in financial crises in Mexico, stand out: syndicate sizes were considerably larger during these years compared to others. The chart shows how the average number of banks of the lead management group increased during times of financial distress and crises and decreased in normal times, underscoring a relationship between syndicate size and country risk. This trend observed at the market level supports the idea that the size of the lead management group was a critical factor in the international lending strategies of banks in the Euromarkets and that it served as a risk management tool. Moreover, this relationship is apparent even when comparing the crises periods, as the syndicate sizes in 1981-1982 were relatively larger than in 1976-1977. To the extent that the financial crisis of 1982 was significantly more severe than in 1977, this is an expected result as banks looked to spread higher risk among a larger group of lead managers.

<< Figure 7 around here >>

[27] For the legal and operational structure of syndicated lending in this era, see Silkenat (1979); Clarke and Farrar (1982); Wood (2010).

Figure 6: Number of banks in credit syndicates by year



Notes: The figure uses boxplots to show the distribution of the number of banks in the lead management group for each syndicated credit granted to Mexico per year.

Source: see Appendix 2

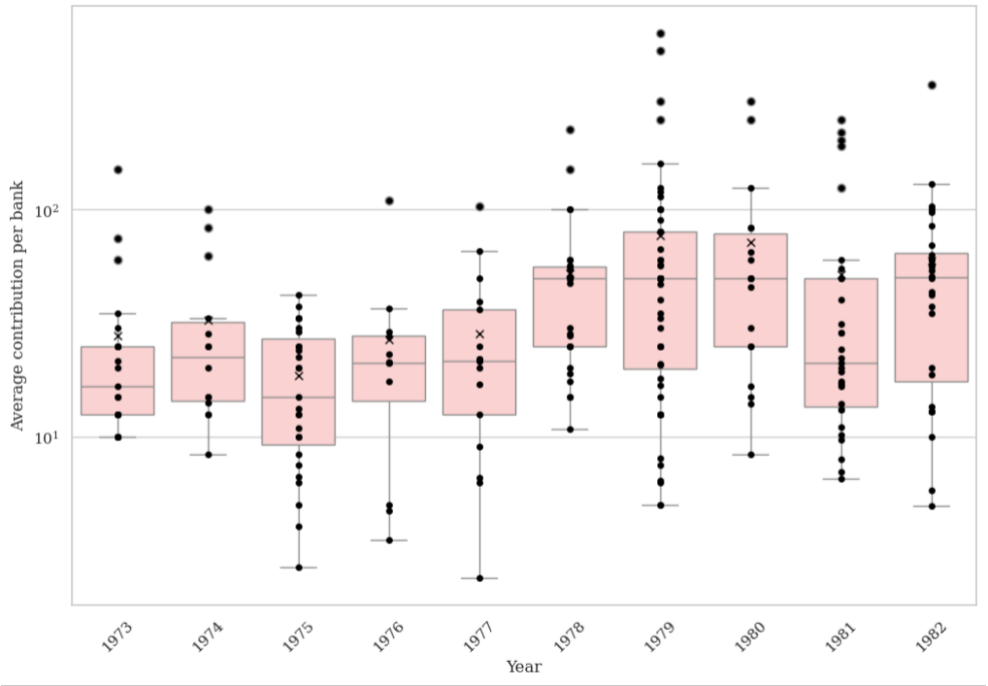
While a larger syndicate size allowed for more fragmentation of lending among members of the lead management group, it did not necessarily mean that it corresponded to a lower-risk lending strategy by the banks. It could be that in times of crisis in Mexico, banks gathered together and increased the size of the syndicate to scale up operations and provide a larger amount of credit to a country in greater need of financing and foreign exchange. Therefore, while enlarging the syndicate size may be necessary to reduce exposure to Mexico and spread risk among other lending banks, it is not by itself sufficient. Banks should also reduce the amount they commit to the lending operation. Thus, for the size of the syndicate to reflect its use by lead manager banks as a risk management tool, one should observe that in times of greater Mexican risk there is not only an increase in the number of banks in the group but also a reduction in the amount of lending of each member. Higher risk and more fractioning for a given level of lending.

Figure 8 shows the average lending commitments of lead management banks in the syndicate credits granted to Mexico between 1973 and 1982. This is computed by dividing the total amount of the credit by the number of banks that integrated the lead manager group. The boxplots of 1976-77 and 1981-82 show that, while the syndicate size of credits increased as previously discussed, the average contribution of member banks tended to decrease. This is particularly evident when compared to the period between 1978 and 1980 when the average lending contribution of lead manager banks was relatively higher. This chart complements Figure 7, confirming the importance of syndicate size in lending strategies as a risk management tool for commercial banks. The size of the management group tended to be larger, and member banks' contribution was lower in times of higher risk and the other way around in more macroeconomic quiet contexts.[28] This trend observed in the market level for all syndicated credit lending operations to Mexico is also reflected at a micro level, as explained in the case of LBI in Table 3.

[28] One caveat is that when the number of members increased, so it did the possibility that one of them defaulted and if so the burden would fall on the shoulders of other banks. Similarly, a larger number of member banks could lead to coordination problems in case of default and need of restructuring the debt.

<< Figure 8 around here >>

Figure 7: Average contribution per bank by year (log scale)



Notes: The figure uses boxplots to show the distribution of the average lending commitment per lead manager bank for syndicated credits to Mexico. This is calculated by dividing the total amount of a credit by the number of banks in the lead management group

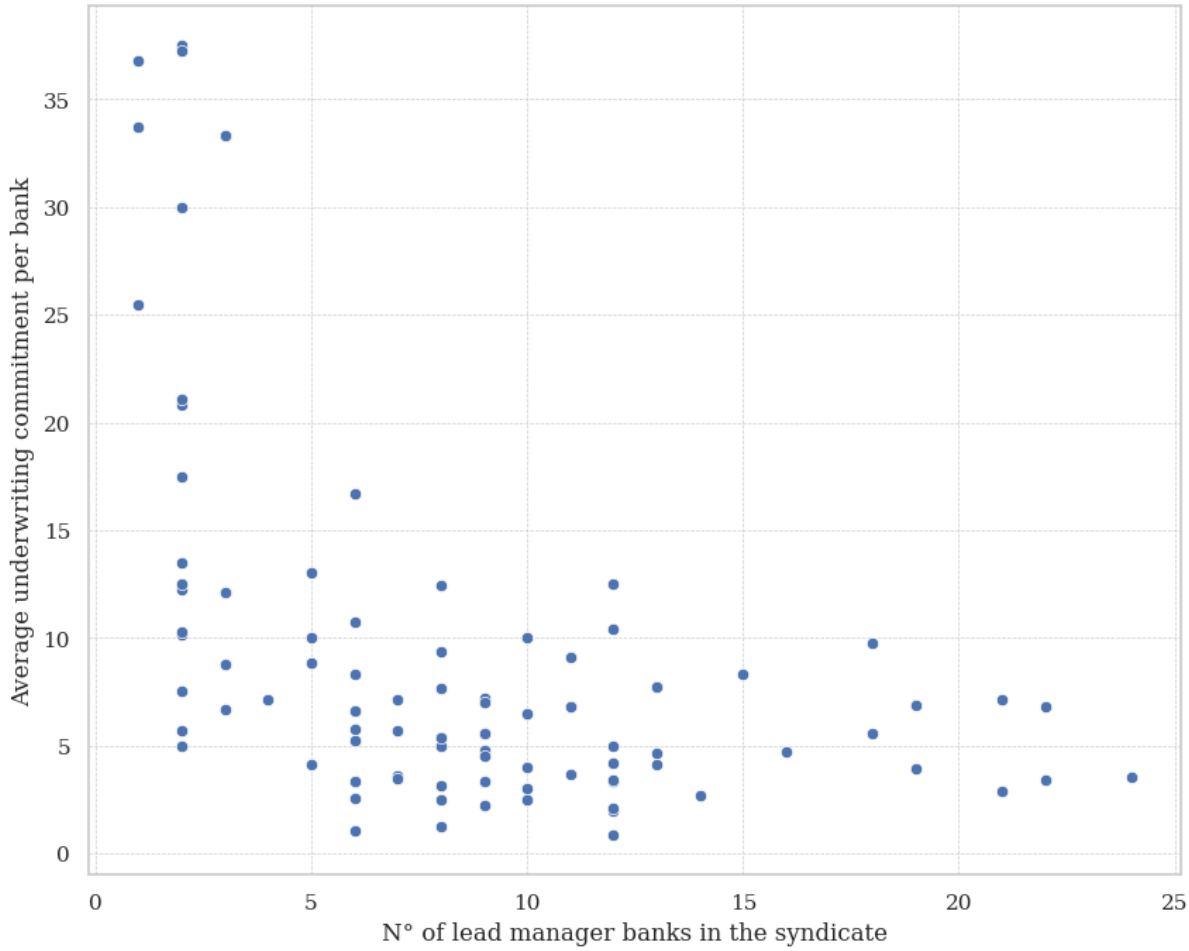
Source: see Appendix 2

As in the case of LBI, the dynamic described for syndicated Eurocredits to Mexico is less evident in the bond market. Figure 9 plots the relationship between syndicate size and average contribution per bank for all Mexican bonds issued between 1963 and 1982. Although a negative relationship seems evident, the links between syndicate size and underwriting commitments as a risk management strategy for issuing banks appear less clear than initially expected. Since banks could typically sell the bonds in the market rather than keeping them in their possession, the number of banks in the lead management group and each bank's committed underwriting amount are less important than in credit operations. The average size of the issuing syndicate of Mexican bonds in 1981 and 1982 was 12 and 11 banks, compared to 7 in 1977 and 5, 11, and 10 in 1978, 1979, and 1980, respectively. On the other hand, the average underwriting commitment of each bank was US$ 6 and 6.5 million in 1981 and 1982 and US$ 10.4 and 5.8 million in 1978 and 1980, respectively. These figures are less conclusive than in the case of credits.

The evidence shows that in times of crisis, lead managers protected themselves by forming larger credit syndicates and reducing their individual commitments. This, however, raises the question of which banks joined these expanding syndicates and how come. This leads to the analysis of market structure and the potential for strategic behavior between market-leading banks and more peripheral participants, as discussed in the following section.

<< Figure 9 around here >>

Figure 8: Scatter plot of underwriting commitment per bank vs. lead manager banks



Notes: The figure plots the relationship between the number of banks in an issuing syndicate and the average underwriting commitment per bank for all Mexican international bonds issued in 1963-1982.

Source: AIBD (1978,1982)

6. Insiders and outsiders

Information considerations were a crucial factor underlying syndicated lending.[29] For banks with limited international reach and no overseas experience, syndication offered an opportunity to engage in sovereign lending and the burgeoning Euromarkets. By collaborating with big international banks, smaller institutions could leverage on the latter's experience and rely on their country risk analysis and information on individual borrowers, which they knew little about.[30] "This is how," as Sgard (2023, p. 53) put it "a small farmers' bank in Nebraska or Niedersachsen ended up with 5 or 10 million dollars lent to Mexico, which it would then have to carry through heavy restructurings after 1982." While useful for smaller banks, this operational framework may have equipped large international banks with a mechanism to manage their exposure by involving less informed banks in lending to a country when credit risk was higher. Additionally, the expectation that national governments and the IMF would backstop distressed sovereigns may have added

[29] See Bogdanowicz-Bindert and Sacks (1984)

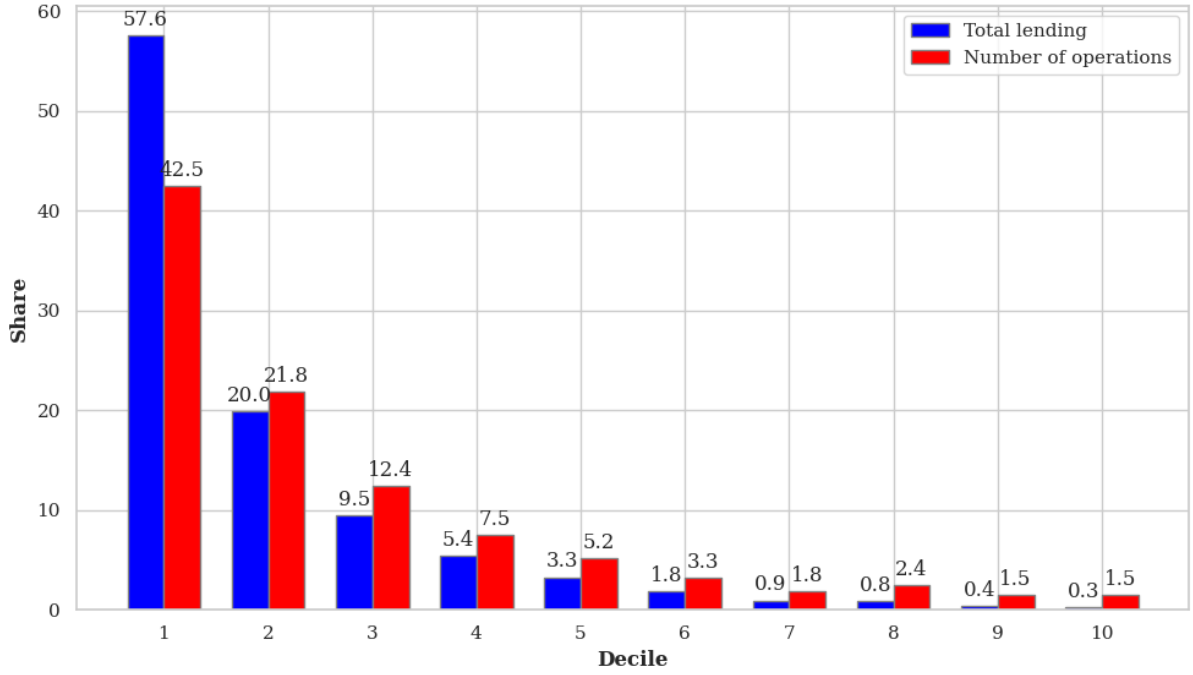
[30] The lead banks also collected information from the borrower on their economic fundamentals in an 'information memorandum'. Small banks thereby delegated their risk assessment to larger banks.

an element of moral hazard to the information advantages of lead banks, helping draw smaller and less-informed institutions into international lending.[31]

In this section, we assess whether the increased fragmentation of international lending during times of heightened risk in Mexico involved strategic behavior by leading banks.[32] Between 1973 and 1982, a total of 232 banks acted as lead managers in the syndicated credit operations to Mexico captured in our database. Figure 10 shows how total bank lending was distributed across deciles. For each credit, the individual bank's contribution is calculated as the ratio of the total operation amount to the size of the syndicate of lead managers. Deciles are defined according to the total volume of operations in which each of the 232 banks participated—with Bank of America at one end of the distribution, leading 39 operations and lending US$2 billion, and the National Bank of North America at the other, participating in a single operation and lending US$4 million.

<< Figure 10 around here >>

Figure 9: Share of total lending and number of operations by decile for eurolending



Notes: The figure shows the concentration of syndicated lending to Mexico. Banks are grouped into deciles based on the total amount of syndicated credit operations they participated in as lead managers. The bars show each decile's share of the total number of participations and the total lending amount.

Source: see Appendix 2

As shown in Figure 10, the first decile accounted for half of the total banks' participation in syndicate lead manager groups and 57.6 percent of lending. The banks of the top decile include the leading players in the

[31] Several authors have underscored how the entanglement of commercial banks with their home authorities and the IMF shaped sovereign lending dynamics. Wellons (1985, 1987), for instance, emphasizes banks' ties to their home governments, whereas Sgard (2012) focuses on their ties to the IMF. Kahler (1985) further argues that the Fund's expanded resources in the late 1970s reinforced its role as a de facto lender of last resort, encouraging moral hazard on both debtor and creditor sides, a view shared by Altamura and Flores Zendejas (2016), Folkerts-Landau (1985), and Guttentag and Herring (1985).

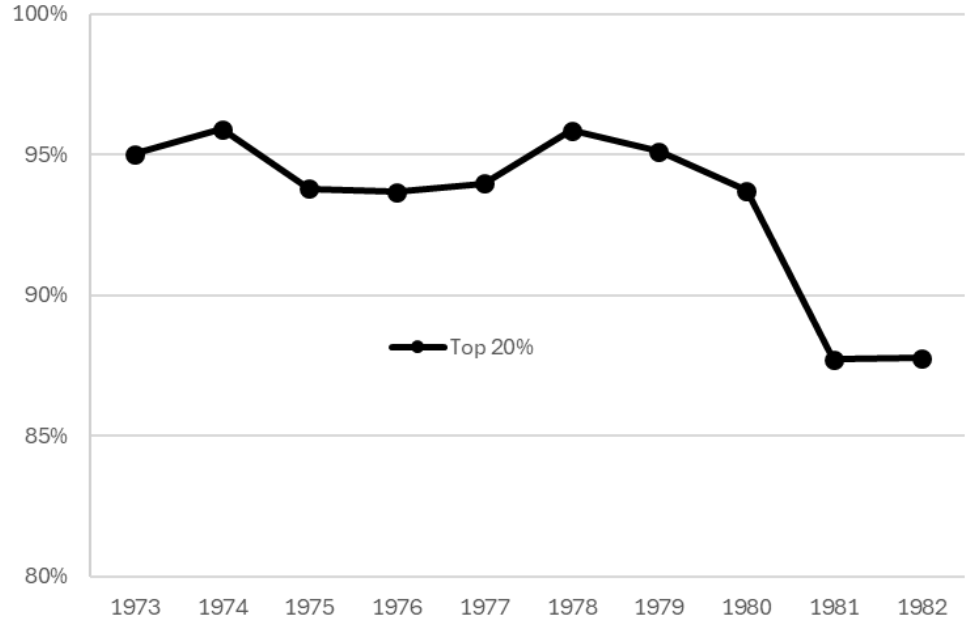
[32] In section 7, banks are classified into three dynamic categories based on entry timing and market activity. "New" banks enter the syndicated credit market for the first time in a given period. "Dominant" banks occupy the top quintile by either number of operations or average contribution amount—these are the major international lenders with superior information about Mexico. "Middle" banks are all others. Banks can transition between categories as their market position evolves over time.

Euromarkets and international lending to Mexico listed in Table 1, such as Bank of America, Citibank, and LBI, among others. The second and third deciles contributed approximately 20 and 10 percent of both measures, respectively, with the remaining deciles making up the balance of 20 percent. These figures highlight the concentration in syndicated lending to Mexico, where a relatively small number of banks accounted for the majority of operations. The top 10 percent of syndicate-leading banks lent 200 times more than the bottom 10 percent and six times more than the bottom 50 percent of leaders. This market structure in syndicated credit operations indicates the existence of a group with market makers, who possessed firsthand information about the country's situation and financial condition, and market takers, who lent to Mexico on a much more irregular basis.

Figure 11 presents the progression of the share of the top quintile (top 20 percent) of bank lenders in total lending to Mexico from 1973 to 1982. The chart reveals relatively higher participation during stable periods and lower participation during crises. Notably, while the top quintile constituted over 90 percent of total lending to Mexico in 1973-1974, this share fell below 90 percent between 1975 and 1977, coinciding with the country's first currency crisis in over two decades and its approach to the IMF for a Standby agreement. The share rose again in 1978, when the macroeconomic situation stabilized and economic growth resumed, before declining once more. The drop was particularly pronounced leading up to the 1982 crisis, with the share reaching 87 percent in 1981, the lowest value in the period. The decline in leading banks' participation in syndicated lending during crises corresponded with an increase in the share of the bottom quintiles. This pattern aligns with the potential strategic behavior of market-leading banks involving secondary participants in syndicated lending when risks were elevated, and the country's payment capacity was in jeopardy.

<< Figure 11 around here >>

Figure 10: Share of top 20% of bank lenders in total syndicated lending to Mexico, 1973-1982



Notes: The figure shows the annual share of the top quintile (top 20%) of lead manager banks in the total amount of syndicated lending to Mexico. The top quintile is determined based on the total volume of lending over the entire period.
Source: See Appendix 2

We now examine whether there is evidence of such strategic behavior in the case of LBI's operations. To do this, we take a slightly differentapproach and analyze the composition of the lead manager group in LBI's syndicated credits to Mexico. The goal is to determine whether, during periods of financial distress in Mexico, the participation of non-lead banks—those in the lower deciles—was relatively higher in credit operations led by LBI compared to non-crisis periods. Table 4 displays the share of the top 10 and 30 percent alongside the bottom 60 percent per year from 1975 to 1982, in terms of the number of operations

and lending amounts. Thus, in 1978, for example, the major international banks in the top decile accounted for 63.3 percent of all banks in syndicated management groups and 67.2 percent of the total amount lent to Mexico. Conversely, the smaller banks in the bottom 60 percent of the lender distribution accounted for only 5 percent of total bank participation in syndicated credits and 6.8 percent of the lending amount.

Overall, Table 4 supports the notion that lead banks utilized syndicated lending to manage their exposure to Mexico. The participation of LBI and other leading banks in syndicated credit lending from the top decile was significantly lower around financial crises, while the share of the bottom 60 percent increased. During 1978 and 1979, when Mexico's macroeconomic performance raised no alarms and there were no crisis prospects, the participation of the top decile was at its highest for the period, while the bottom 60 percent was at its lowest: 63.3 and 68 percent compared to 5 and 4 percent, respectively. However, in 1981, when the crisis loomed, the share of the top decile dropped to 55.6 percent while the bottom 60 percent increased to 5.6 percent. This trend intensified in the year of the crisis, as the participation of the top decile and bottom 60 percentfurther shifted, converging at 27.8 percent each in 1982. A similar trend is also observable in lending amounts, though the shifts are less pronounced.

<< Table 4 around here >>

Table 4. LBI syndicated credits operation with Mexico (Share %)

	Operations			Lending		
	Top 10	Top 30	Bottom 60	Top 10	Top 30	Bottom 60
1975	100.0%	100.0%	0.0%	100.0%	100.0%	0.0%
1976	37.5%	62.5%	25.0%	37.5%	62.5%	25.0%
1977	51.2%	89.0%	9.8%	48.5%	85.5%	12.5%
1978	63.3%	91.7%	5.0%	67.2%	89.0%	6.8%
1979	68.0%	92.0%	4.0%	77.0%	95.5%	2.3%
1980						
1981	55.6%	88.9%	5.6%	55.6%	88.9%	5.6%
1982	27.8%	61.1%	27.8%	62.7%	79.9%	14.4%

Source: see Appendix 2

Notes: The table analyzes the composition of the lead management syndicates in credits where LBI participated . It shows the percentage share of banks from different tiers (top 10%, top 30%, bottom 60%) of the overall lender distribution, measured by both number of banks and lending amount.

7. Data and empirical analysis

The descriptive statistics and the LBI case study analyzed in the previous sections have revealed several distinct patterns: a shift to bonds during crises (H1), a relationship between risk and lending preferences (H2), the expansion of syndicate sizes in troubled times (H3), and differential behavior between lead (insider) and non-lead (outsider) banks (H4). This section formally tests these patterns through regression analysis. It should be stressed, however, that the goal of these estimates is not to prove causality but to demonstrate that the relationships highlighted in the previous sections hold up statistically and remain robust to the inclusion of relevant controls.

We employ two datasets. The first is a bank-level panel constructed by aggregating individual operations into five sub-periods corresponding to distinct phases of Mexico's macroeconomic situation: 1971-72 (early period), 1973-75 (first quiet period), 1976-77 (first crisis), 1978-81 (second quiet period), and 1982 (second

crisis)[33]. This panel, comprising 236 bank-period observations across 84 banks active in both markets, is used to test hypotheses concerning the W-ratio and insider/outsider dynamics. The second dataset is a cross-section of 235 individual syndicated credits, used to test hypotheses about syndicate size. We apply a logit transformation to the W-ratio to address its bounded nature between 1 and 0, employ negative binomial models for syndicate size (count data, H3), and log-transform continuous credit amounts. All panel specifications include bank fixed effects with standard errors clustered at the bank level.

To distinguish between different types of market participants, we design a bank classification system that reflects both entry timing and overall market activity. Banks are classified as "New" in the first period they enter the syndicated credit market. For banks that are not new entrants, we assess their overall credit activity by calculating quintiles based on two measures: the total number of operations and the average contribution amount. Banks in the top quintile of either measure are classified as "Dominant"—these correspond to the major international banks that possessed firsthand information about Mexico's financial condition or insider banks. Banks that are neither new entrants nor in the top quintile are classified as "Middle," and along with the "New" represent outsider banks. This three-tier classification is dynamic: a bank can be "New" in one period and transition to "Middle" or "Dominant" in subsequent periods as its market position evolves.

Table 5 and Table 6 report summary statistics for the panel and cross-section datasets respectively. A clear description of each variable is reported in Appendix 2.

<< Table 5 around here >>

Table 5: Bank Panel Statistics

Variable	Mean	p25	p50	p75	SD	N
N. Credit Operations	8.02	1.00	5.00	11.00	8.61	592
N. Bond Operations	5.81	0.00	2.00	8.00	7.81	592
Avg. Credit Amount (mln $)	80.42	4.98	26.52	83.56	156.50	592
N. Credits	2.40	1.00	1.00	3.00	2.83	592
Total Credit Amount (mln $)	1141.12	15.00	300.00	1300.00	2038.95	592
Credit Spread (% over LIBOR)	0.81	0.50	0.69	1.17	0.43	434
Credit Maturity (years)	6.24	5.00	6.33	7.88	2.50	445
Avg. Bond Amount (mln $)	9.59	0.00	1.47	12.45	16.47	592
N. Bonds	1.54	0.00	1.00	2.00	2.35	592
Total Bond Amount (mln $)	99.52	0.00	20.00	116.27	178.90	592
Bond Yield (% over par)	10.95	8.25	8.92	14.25	3.82	227
Bond Maturity (years)	8.45	7.00	8.00	10.00	3.54	308
New bank	0.52	0.00	1.00	1.00	0.50	447
Dominant bank	0.28	0.00	0.00	1.00	0.45	447
Middle bank	0.20	0.00	0.00	0.00	0.40	447
W-Ratio (avg. amounts)	0.29	0.00	0.10	0.40	0.37	294
W-Ratio (count operations)	0.43	0.00	0.38	0.75	0.37	294
W-Ratio (total amounts)	0.28	0.00	0.08	0.40	0.37	294

[33] Annual estimates are impractical because most banks did not participate in both bond and credit markets every year, yielding undefined ratios, and the small number of operations per bank-year would produce highly volatile estimates. Aggregating into periods defined by Mexico's macroeconomic conditions provides sufficient cell sizes for stable estimation while preserving meaningful temporal variation.

<< Table 6 around here >>

Table 6: Credit Cross-Section Statistics

Variable	Mean	p25	p50	p75	SD	N
Syndicate size	5.598	1.000	2.000	6.000	7.605	254
Log Amount (mln USD)	4.435	3.434	4.331	5.442	1.210	254
Credit Spread (% over LIBOR)	0.737	0.500	0.656	1.250	0.525	235
Credit Maturity (years)	6.143	3.000	6.000	10.000	3.642	249
Issue Year	1977.894	1975.000	1979.000	1980.000	2.907	254

The first hypothesis posits that banks shifted from credits to bonds during periods of financial distress. To test this, we estimate the following fixed-effects panel regression:

$$W_{it} = \alpha_i + \sum_p \beta_p \cdot \text{Period}_{pt} + \gamma \cdot \text{BankClass}_{it} + \delta \cdot \text{Spread}_{it} + \theta \cdot \text{Term}_{it} + \varepsilon_{it}$$

where the dependent variable, W_{it} is the bond-to-total-lending ratio (w-ratio) for bank *i* in period *t*, with the logit transformation applied to model the ratio bounded between 0 and 1. The term α_i represents bank fixed effects, which control for unobserved time-invariant heterogeneity across banks. Period_{pt} are dummy variables for each sub-period, where the 1971-72 period serves as the reference category. BankClass_{it} is a categorical variable used to distinguish different classes of banks (e.g., dominant, middle-tier, new entrant). The model also includes market and risk controls: Spread_{it}, a measure of the interest rate spread, and Term_{it}, a variable capturing the average maturity or term structure. Finally, ε_{it} is the idiosyncratic error term.

Table 7 reports fixed-effects regressions with the logit-transformed W-ratio as the dependent variable. The results strongly support this hypothesis. In the fully specified model (column 4), the coefficients for crisis periods are large and highly significant: 2.09 ($p<0.01$) for 1976-77 and 2.81 ($p<0.01$) for 1982, compared to the 1971-72 baseline. The coefficient for 1982 is notably larger, consistent with the greater severity of that crisis. The intermediate period 1978-81 shows a smaller but still significant effect (1.41, $p<0.05$), while the early expansion period 1973-75 displays a modest positive coefficient (0.70, $p<0.01$). Longer loan maturities are associated with higher bond preference (0.21, $p<0.01$), suggesting that banks favored bonds for longer-duration exposures. Bank classification does not significantly predict the W-ratio once other controls are included, indicating that the shift toward bonds during crises was common across bank types rather than concentrated among particular categories of lenders. These results are robust to alternative W-ratio measures based on number of operations (column 5) and total amounts (column 6).

<< Table 7 around here >>

Table 7: Hypothesis 1

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome var:	W-Ratio (avg. amounts)	W-Ratio (avg. amounts)	W-Ratio (avg. amounts)	W-Ratio (avg. amounts)	W-Ratio (count operations)	W-Ratio (total amounts)
1973-75	-4.184***	-0.862	0.112	0.702***	0.906**	0.517*
	(0.816)	(0.602)	(0.21)	(0.251)	(0.369)	(0.279)
1976-77	-2.755***	0.404	1.420***	2.090***	2.343***	1.388***
	(0.763)	(0.843)	(0.503)	(0.511)	(0.717)	(0.497)

1978-81	-3.606***	0.181	1.251*	1.408**	2.127**	1.035
	(0.762)	(0.977)	(0.744)	(0.7)	(0.948)	(0.645)
1982	-2.734***	1.175	2.266***	2.809***	3.503***	1.874**
	(0.744)	(1.087)	(0.841)	(0.801)	(1.109)	(0.722)
Middle		0.820**	0.769**	0.56	0.478	0.298
		(0.33)	(0.36)	(0.361)	(0.502)	(0.405)
New		0.33	0.371	0.05	-0.564	-0.072
		(0.479)	(0.51)	(0.503)	(0.675)	(0.454)
Spread			0.106	0.121	0.138	-0.315
			(0.316)	(0.277)	(0.435)	(0.357)
Term				0.214***	0.214***	0.164***
				(0.056)	(0.08)	(0.059)
Constant	1.617**	-3.308***	-4.454***	-6.136***	-5.326***	-4.852***
	(0.676)	(1.02)	(0.946)	(0.936)	(1.39)	(0.931)
Observations	294	242	236	236	236	236
R-squared	0.197	0.319	0.322	0.401	0.411	0.274
Number of bank	85	85	84	84	84	84
F.E.	yes	yes	yes	yes	yes	yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The second hypothesis tests whether risk, proxied by the spread over LIBOR, predicts banks' lending preferences. Formally, we estimate the following fixed-effects panel regression:

$$W_{it} = \alpha_i + \beta_1 \cdot \text{Spread}_{it} + \beta_2 \cdot \text{Spread}_{it}^2 + \sum_p \gamma_p \cdot \text{Period}_{pt} + \delta \cdot \text{BankClass}_{it} + \theta \cdot \text{Term}_{it} + \varepsilon_{it}$$

Table 8 reports specifications that include both linear and quadratic spread terms to capture potential non-linearities. The results reveal a U-shaped relationship between spread and the logit W-ratio. In the fully specified model (column 4), the linear term is negative and significant (-2.26, $p<0.05$) while the quadratic term is positive and significant (1.25, $p<0.05$). This pattern suggests that at moderate spread levels, banks favored credits—likely capturing higher interest income—but beyond a threshold, risk concerns dominated and they shifted toward bonds. These findings hold across alternative W-ratio measures (columns 5-6), providing consistent evidence that risk management considerations shaped banks' choice between lending instruments.

<< Table 8 around here >>

Table 8: Hypothesis 2

Outcome var:	(1) W-Ratio (avg. amounts)	(2) W-Ratio (avg. amounts)	(3) W-Ratio (avg. amounts)	(4) W-Ratio (avg. amounts)	(5) W-Ratio (count operations)	(6) W-Ratio (total amounts)
Spread	-3.234**	-3.681***	-2.252**	-2.263**	-3.115*	-3.355**
	(1.396)	(1.317)	(1.063)	(1.089)	(1.65)	(1.453)

Spread^2	1.219*	1.466**	1.252**	1.250**	1.706**	1.594**
	(0.668)	(0.637)	(0.503)	(0.513)	(0.779)	(0.671)
Term		0.075	0.234***	0.232***	0.238***	0.186***
		(0.06)	(0.054)	(0.059)	(0.084)	(0.06)
1973-75			0.643***	0.748***	0.968**	0.576**
			(0.241)	(0.261)	(0.379)	(0.289)
1976-77			1.958***	1.972***	2.182***	1.237**
			(0.293)	(0.494)	(0.699)	(0.474)
1978-81			1.462***	1.478**	2.222**	1.125*
			(0.236)	(0.677)	(0.909)	(0.62)
1982			2.961***	2.880***	3.601***	1.966***
			(0.294)	(0.769)	(1.065)	(0.682)
Middle				0.544	0.457	0.278
				(0.351)	(0.491)	(0.386)
New				0.025	-0.599	-0.105
				(0.485)	(0.655)	(0.434)
Constant	-1.033*	-1.352**	-5.244***	-5.353***	-4.258***	-3.854***
	(0.612)	(0.636)	(0.644)	(0.998)	(1.492)	(1.051)
Observations	236	236	236	236	236	236
R-squared	0.072	0.084	0.407	0.419	0.427	0.307
Number of bank	84	84	84	84	84	84
F.E.	yes	yes	yes	yes	yes	yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The third hypothesis concerns syndicate size. If banks used syndicate structure as a risk management tool, we should observe larger syndicates during crisis periods, controlling for loan characteristics. To test this, we estimate a negative binomial model on the cross-section of individual credits:

$$\text{SyndicateSize}_j = \exp\left(\sum_p \beta_p \cdot \text{Period}_{pj} + \gamma \cdot \ln(\text{Amount}_j) + \delta \cdot \text{Spread}_j + \theta \cdot \text{Term}_j + X_j'\phi + \varepsilon_j\right)$$

This specification uses an Exponential Conditional Mean (ECM) formulation derived from a Negative Binomial model, which is appropriate given that SyndicateSize_j is non-negative count data[34]. In this cross-sectional model, *j* indexes individual credits. $\ln(\text{Amount}_j)$ is the size of the credit facility and is included in log-transformed form. $\boldsymbol{X_j'\phi}$ is a vector of control variables, and it includes fixed effects for currency and borrower characteristics. Table 9 reports negative binomial regressions with the number of banks in the lead management group as the dependent variable. The results provide strong support for this hypothesis, with effect sizes that are substantial. In the fully specified model (column 7), the coefficients for crisis periods translate into incidence rate ratios of 21.3 for 1976-77 and 23.7 for 1982, while for the intermediate period 1978-81 and 1973-75 ratios of 13.2 and 7.8 respectively. During crises times, syndicates were two to three times larger than in quiet times. These effects persist after controlling for loan size, term, spread, currency, and borrower type. Larger loans naturally required more participants (incidence rate ratio of 1.96

[34] The key advantage of the negative binomial approach is its ability to explicitly account for overdispersion, a condition where the variance of the count variable exceeds its mean, which is commonly observed for syndicate size

per log-unit increase in amount), and higher spreads were associated with modestly larger syndicates (ratio of 1.32, p<0.05). Syndicates involving more dominant banks tended to be larger (ratio of 1.73, p<0.01).

<< Table 9 around here >>

Table 9: Hypothesis 3

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome var:	Synd size	Synd size	Synd size	Synd size	Synd size	Synd size	Synd size	Incidence ratios (7)
1973-75	0.08	0.085	0.181	1.784***	1.779***	2.024***	2.056***	7.817***
	(0.289)	(0.492)	(0.511)	(0.102)	(0.099)	(0.225)	(0.28)	(2.189)
1976-77	1.146***	0.574	0.708	2.300***	2.242***	2.344***	3.058***	21.285***
	(0.342)	(0.518)	(0.536)	(0.194)	(0.149)	(0.255)	(0.33)	(7.026)
1978-81	0.525*	-0.135	-0.089	1.567***	1.556***	1.840***	2.578***	13.172***
	(0.295)	(0.493)	(0.513)	(0.134)	(0.112)	(0.244)	(0.339)	(4.462)
1982	1.423***	0.388	0.498	2.192***	2.298***	2.534***	3.167***	23.726***
	(0.314)	(0.504)	(0.521)	(0.181)	(0.156)	(0.277)	(0.355)	(8.412)
Log Amount USD		0.641***	0.635***	0.611***	0.598***	0.615***	0.673***	1.961***
		(0.039)	(0.038)	(0.038)	(0.04)	(0.046)	(0.042)	(0.082)
Term			0.034**	0.037**	0.034**	0.016	0.015	1.015
			(0.017)	(0.018)	(0.017)	(0.016)	(0.015)	(0.016)
Spread				0.173	0.163	0.218*	0.274**	1.315**
				(0.158)	(0.126)	(0.13)	(0.14)	(0.184)
(Mean participants) Bank Class							0.548***	1.731***
							(0.107)	(0.185)
Constant	0.981***	-1.594***	-1.848***	-3.516***	-3.666***	-3.385***	-5.570***	
	(0.271)	(0.515)	(0.551)	(0.294)	(0.255)	(0.269)	(0.495)	
Observations	254	254	249	235	235	235	235	
Pseudo R2	0.04	0.147	0.15	0.146	0.164	0.197	0.221	
Log-likelihood	-684.88	-607.99	-597.37	-573.92	-562.05	-540.04	-523.79	
Currency indicators	no	no	no	no	yes	yes	yes	
Borrower indicators	no	no	no	no	no	yes	yes	

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The fourth hypothesis examines whether the expansion of syndicates during crises involved differential behavior between insider and outsider banks. To test this, we run fixed-effects regressions with log-transformed credit amounts as the dependent variable, including interactions between bank classification and a crisis indicator

$$\ln(\text{Credit}_{it}) = \alpha_i + \beta \cdot \text{Crisis}_t + \sum_c \gamma_c \cdot \text{BankClass}_{cit} + \sum_c \delta_c \cdot (\text{BankClass}_{cit} \times \text{Crisis}_t) + \theta \cdot \text{Spread}_{it} + \phi \cdot \text{Term}_{it} + \varepsilon_{it}$$

The critical interaction term, δ_c, indicates whether the middle and new entrant banks responded significantly differently to the crisis compared to the reference (dominant) bank class.

Table 10 reports the results, which require careful interpretation. The main effect of crisis for dominant banks is negative and significant (-1.10, p<0.01), indicating that leading banks reduced their lending during crisis periods. The interaction terms for middle-tier and new entrant banks are positive and significant (0.89 and 1.00 respectively, both p<0.01). However, these positive interactions do not imply that outsider banks increased lending during crises. Computing the net effects reveals that middle banks' crisis response is -1.10 + 0.89 = -0.21, and new banks' response is -1.10 + 1.00 = -0.10. Thus, all bank types reduced lending during crises, but dominant banks reduced their exposure far more sharply than middle-tier or new entrant banks. This pattern is consistent with strategic risk redistribution: as informationally advantaged insiders pulled back aggressively, the composition of remaining market exposure shifted toward less-informed outsiders. The results hold across alternative measures based on number of credits (column 6) and total amounts (column 7), though the interaction terms lose significance in the latter specification.

<< Table 10 around here >>

Table 10: Hypothesis 4

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Outcome var:	Avg. Credit Amount (mln $)	Avg. Credit Amount (mln $)	Avg. Credit Amount (mln $)	Avg. Credit Amount (mln $)	Avg. Credit Amount (mln $)	N. Credits	Total Credit Amount (mln $)
Middle	-0.731***		-1.188***	-1.951***	-1.207***	-0.494***	-1.423***
	(0.182)		(0.248)	(0.209)	(0.239)	(0.13)	(0.372)
New	-1.042***		-1.700***	-2.269***	-1.487***	-0.683***	-2.238***
	(0.13)		(0.16)	(0.17)	(0.182)	(0.108)	(0.262)
Crisis = 1		0.016	-1.040***	-0.954***	-1.100***	-0.397***	-0.427**
		(0.121)	(0.155)	(0.164)	(0.166)	(0.096)	(0.213)
Middle#Crisis			0.795***	0.962***	0.888***	0.340***	0.6
			(0.25)	(0.231)	(0.239)	(0.122)	(0.391)
New#Crisis			1.123***	1.022***	0.995***	0.404**	1.341**
			(0.295)	(0.201)	(0.316)	(0.18)	(0.522)
Spread					-0.342**	-0.119	-0.151
					(0.149)	(0.094)	(0.224)
Term					-0.066**	-0.031*	-0.032
					(0.029)	(0.016)	(0.046)
Constant	4.643***	2.977***	5.280***	5.680***	5.911***	2.081***	7.967***
	(0.097)	(0.061)	(0.135)	(0.161)	(0.245)	(0.153)	(0.408)
Observations	447	592	447	447	434	434	434
R-squared	0.206	0	0.361	0.412	0.38	0.262	0.397
Number of bank	232	278	232		227	227	227
F.E.	yes	yes	yes	no	yes	yes	yes

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Overall, the regression analysis confirms the patterns identified through descriptive statistics and archival evidence. Banks shifted toward bonds during crisis periods, responded to both continuous risk signals and discrete crisis events, expanded syndicate sizes as a risk fragmentation strategy, and exhibited differential responses across bank types consistent with strategic behavior by informed market makers. Without formally establishing causal links, these findings provide robust statistical support for the interpretation that international banks actively managed their exposure to Mexico through coordinated adjustments in lending instruments and syndicate structures during the decade preceding the 1982 debt crisis.

8. **Conclusions**

This paper has examined the dynamics of sovereign lending in the Euromarkets during the 1970s and early 1980s from the perspective of international lenders, using Mexico as a case study. While existing scholarship often treats international bond and syndicated loan markets as distinct spheres, this article demonstrates that they were closely interconnected in practice. With simultaneous involvement in both markets, leading international banks shifted between Eurobonds and Eurocredits in response to changes in borrowers' creditworthiness and their own internal risk-management needs, strategically reallocating exposures as conditions evolved.

The rise of the bond-to-credit lending ratio to Mexico during periods of crisis and heightened country risk is a revealing finding. It raises the broader question of whether a similar pattern would emerge for other developing countries that actively participated in the Euromarket lending boom of the 1970s. Although such analysis lies beyond the scope of this article, aggregate global data shows a comparable W-shaped dynamic at the international level between 1972 and 1982. After declining in the early 1970s as syndicated credits expanded, the ratio of total Eurobonds to Eurocredits rose sharply in the mid-1970s and again in the run-up to the 1980s debt crisis. These were not only difficult years for Mexico, as this paper has shown, but also moments of significant systemic financial stress worldwide—marked by banking problems and recurrent disruptions in the Eurocurrency and international interbank markets that underpinned both Eurobond and Eurocredit activities.[35] Further research is needed to determine whether Mexico was a major driver of this global pattern, or whether similar dynamics were at play among other major developing-country borrowers—such as Brazil or Argentina—and to explore how different levels of creditworthiness and domestic economic conditions shaped their respective trajectories.

The relationship between syndicate composition and Mexico's macro-financial situation is another key finding of this article. Banks not only shifted toward bond lending in periods of heightened financial distress in the borrowing country, but also expanded the size of lending syndicates and reduced the average contribution of each lead-manager bank as an additional tool to manage risk and limit exposure. This pattern is evident for Eurocredits, whereas it is less pronounced for Eurobond issues—consistent with the fact that bonds, which could be sold on the secondary market rather than kept on banks' balance sheets, made syndicate structure and individual commitments less central to managing country exposure. In the case of LBI, internal documents and archival evidence further show that, alongside shifts in the bond-to-credit ratio and syndicate composition, the bank increasingly relied on syndicated lending rather than single direct loans during periods of stress, confirming the broader view in the literature that syndication served to disperse risk across many lenders. LBI also temporarily expanded short-term credit lines—mainly trade-related finance—to support Mexico during moments of acute risk, before scaling them back once

[35] See, for instance, Schenk (2014) and Alvarez (2017).

conditions eased. Further research is needed to determine whether these dynamics extend to other debtor countries or appear at the aggregate market level.

The article also sheds light on the structure of international lending markets during the early years of financial globalization and modern capital-market formation. While the literature has long emphasized the role of large international banks as leaders and market makers in Euromarket lending with informational advantages and stronger country-risk assessment capacities than smaller institutions, this article argues that, in Mexico's case, leading banks also used this position strategically as a risk-management tool. Their participation in syndicated lending increased during periods of relative calm but fell sharply when Mexico's vulnerabilities deepened, suggesting that market-making banks (insiders) drew smaller, less-informed institutions (outsiders) into syndicates as a way to shift risk outward during moments of heightened uncertainty in the borrowing country. The growing prominence of the IMF as a crisis manager in the 1970s and especially the 1980s, along with its close engagement with international banks on external-imbalance issues, created an implicit safety net that may have reinforced moral-hazard incentives and encouraged broader bank participation. Nonetheless, the systematic shifting balance between insider and outsider lending indicates that informational asymmetries, strategic portfolio adjustments, and changing market conditions were also important drivers.

Finally, while this article has focused on the supply side of international lending to Mexico, the demand side of the story remains to be examined. What role, if any, did Mexico's own borrowing strategy play in shaping the country's external indebtedness? Did Mexican authorities and borrowers influence the timing of bond-to-credit shifts or the composition of lending syndicates? Our database reveals a wide array of public and private borrowers—from the federal government and numerous state-owned enterprises to leading financial and non-financial private firms. Further research is needed to investigate the logic behind Mexico's borrowing patterns and whether they reflected any coordinated strategy among public entities or between the public and private sectors, including the prioritization of credits over bonds (or vice versa) at particular moments. Likewise, future work should assess whether specific borrower characteristics were associated with particular syndicate structures or participant profiles, thereby illuminating the demand-side dynamics that complemented the bank lending behavior analyzed in this article.

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Appendix 1

INTERNATIONAL BOND ISSUES:

Eurobond:

An Eurobond issue is one that is placed simultaneously on the market of at least two countries and is denominated in a currency which need not be that of either the borrower or the lender, and may even be a combination of currencies. Such bonds are usually placed through international syndicates of financial institutions of several countries.

Foreign bond issues:

A foreign bond issue is one which is placed, generally by a domestic syndicate, on the market of a single country, which is different than that of the issuer.

SYNDICATED LOANS:

Loans with an original maturity of at least one year which have been granted by a syndicate of commercial banks, irrespective of whether the counterpart is a resident or a non-resident of the country in question. They include credits that have been widely syndicated and loans by a small group of banks ("club loans") that have been publicised (term loans, project-related loans, revolving lines of credit, medium-term export credits, etc.). Refinancings incorporating new lending terms are included. The following are excluded from the data: i) officially-guaranteed loans, such as loans by an export credit guarantee agency, even if financed by euro-currency funds; ii) general rescheduling of commercial bank debt; iii) restructuring of individual credit agreements; iv) loans realised in the form of negotiable instruments such as bonds or notes v) loans granted by international organisations (EIB, the World Bank, EBRD, IFC etc.).

Syndicated Euro-loans:

International medium-term bank loans funded wholly out of euro-currency funds, irrespective of whether the counterpart is a resident or a non-resident of the country in question.

Syndicated foreign loans

Foreign bank credits, i.e. domestic-currency credits with an original maturity of at least one year, extended by a bank or a group of banks in a given country to a non-resident borrower.

OTHER DEBT FACILITIES

These series include other international medium-term bank facilities such as underwritten facilities to back up the issue of other financial instruments (e.g. commercial paper, short-term euronotes, bond and note issues, certificates of deposits, bankers' acceptances, etc.) as well as precautionary credit lines arranged in the context of take-over bids. Facilities of an altogether guaranteeing nature (advance payments guarantees) and non-underwritten facilities (e.g. eurocommercial paper and medium term note programmes) are excluded.

Appendix 2

The first dataset, is a panel of banks, which we use to test hypotheses 1, 2, and 4. The second dataset is a cross-section of syndicate credits, which we use to test hypothesis 3. We use two main sources. The first source is Negrete Cardenas (1999) PhD Dissertation, who compiled a list of all syndicated eurocredits to the Mexican public sector which was the main borrower over the period.[36] We manipulate this data to obtain a dataset that includes all credits, banks that participated in the syndicate, borrower, date of issue, term of the loan (in years), spread over LIBOR, currency, amount, and amount in US$ The second source is the International Bond Manual published by the Association of International Bond Dealers (AIBD). Using the 1978 and 1982 editions, we can identify all bonds issued by Mexico in our period. For each bond, we extract information on the leading banks of syndicates, borrower, date of issue, maturity, interest rate, issue price, amount, and amount in US$, and place of listing. We then cross link the two dataset by assigning a unique bank id to each bank. We use this novel data to construct several variables, displayed in Table 5 and Table 6.

To obtain a panel structure we identify five time periods: early period (label 1971-73), first quiet period (label 1974-75), first turmoil (label 1976-77), second quiet period (label 1978-81), and second turmoil (label 1982). The early years until 1973, when eurocredit lending has not yet developed. A first (quiet) period between 1973 and 1975, when important oil fields were discovered by PEMEX and Mexico passed from being a marginal net importer of crude and its derivatives to become a net exporter. The currency and payment crisis period between 1976 and 1977 when the country approached the IMF and signed an EEF agreement. A new (quiet) period between the abandonment of the IMF program in 1978 and 1980 as the country paid back its loans to the Fund and the economy got back on track pushed by the euphoria of the second oil shock in 1979. And a final crisis period from 1981 after the oil exports meltdown of June and July after the OPEP conference in Geneva and the moratorium declaration in 1982. For each bank-period, we calculate the sum (total amount lent in US$, number of operations) and mean (spread, interest rate, term/duration) of relevant variables. In addition to these classifications, we construct a binary crisis indicator. This variable takes the value 1 for the periods 1976-77 and 1982, identified as times of significant financial stress, and 0 for the other periods. This allows us to directly test the impact of crisis conditions on lending behavior.

To distinguish insiders and outsiders, we design a bank classification system 'bank_class' to reflect both the entry timing of banks into the syndicated credit market and their overall activity. Bank

[36] I.e. federal government, public banks, and public agencies

are classified as "new" in the first period they enter the credit market. For banks that are not new entrants, we then consider their overall credit activity. We calculate quintiles based on two measures: the total number of operations and the average contribution amount. Banks in the top quintile (5th quintile) of either measure are classified as "Dominant". This approach captures both the frequency and the scale of a bank's lending activities. Any remaining banks that are neither new entrants nor in the top quintile of lending activity are classified as "Middle". This three-tier classification system allows us to examine how different types of banks behave in various market conditions. It is important to understand that this classification is dynamic, so a bank can be "New" in a precedent period, and becoming "Middle" or even "Dominant" in later periods.

The "Avg. Credit Amount (mln $)" and "Avg. Bond Amount (mln $)" variables represent sum of the average amount per operation for credits and bonds respectively[37]. Similarly, "N. Credits" and "N. Bonds" count the number of credit and bond operations, while "Total Credit Amount (mln $)" and "Total Bond Amount (mln $)" capture the sum of the total amount of all operations the bank participate in. To examine the risk and duration aspects of loans, we utilize spread and term variables for both credits and bonds. The "Credit Spread (% over LIBOR)" and "Credit Maturity (years)" variables represent the spread over LIBOR and the duration for credits, while "Bond Yield (% over par)" and "Bond Maturity (years)" serve the same purpose for bonds. These variables allow us to assess how risk premiums and loan durations vary between bonds and credits and across different time periods.

The W-ratio is our primary dependent variable, crucial for testing hypotheses 1 and 2. We calculate three versions of this ratio to provide a comprehensive view of bank lending preferences. The "W-Ratio (avg. amounts)" represents the ratio of bond lending ("Avg. Bond Amount (mln $)") amount to total lending amount ("Avg. Credit Amount (mln $)" + "Avg. Bond Amount (mln $)"), offering insight into the monetary allocation between bonds and credits. The "W-Ratio (count operations)", and the "W-Ratio (total amounts)", are calculated using "N. Credits" and "N. Bonds", and "Total Credit Amount (mln $)" and "Total Bond Amount (mln $)" respectively.

The bank classification variables – new bank, dominant bank, and middle bank - are crucial for testing our fourth hypothesis about the behavior of different types of banks. These categorical variables allow us to distinguish between new market entrants, the largest and most active lenders,

[37] Since we do not directly observe the total contribution in each operation, we calculate the mean by dividing the total lending by the number of participants in the syndicate. We acknowledge that the distribution of the shares in syndicates could be skewed, and newer banks could have tiny shares way below the average. However, it is important to bear in mind that here we are not considering all participants, but only the managers, whose shares were more balanced. Furthermore, we employ *_t and *_n as robustness checks, which would not be affected by this problem and our results are confirmed.

and those banks that fall between these two extremes. By interacting these variables with our crisis indicator and time period variables, we can explore how different types of banks adjusted their lending strategies in response to changing market conditions.

Early period	Pre May 72	
First quiet period	May-72	Important oil fields had been discovered in 1972 by PEMEX, and Mexico passed from being a marginal net importer of crude and its derivatives to become a marginal net exporter after 1975
Currency crisis	Aug-76	Mexican authorities start secret talks with IMF. In Tuesday, 31 August 1976, Mexican Finance Minister declared, 'we announce to you that the decision has been made to abandon the fixed exchange rate of the Mexican peso against the US dollar.' Letter of Intent to the IMF in September, Fund's Executive Board approved the Mexican program at the end of October, and that the credit was signed in November.
Second quiet period	Dec-77	The IMF program was officially abandoned in June 1978, when its loans were paid in advance. Euromoney, "Mexico - everyone likes the professionals' touch", October 1977. The second oil shock in late 1979 provided a further sense of euphoria
Financial crisis	Post Jun-81	After its 60th Conference, that took place on May 25-26 1981 in Geneva, the OPEC made public its failure to negotiate a unanimous cut in the production levels. Oil buyers that bought from Pemex started to receive offers of discounted prices from OPEC producers, and demanded that Mexico do the same. numerous buying orders were cancelled. Compared to those recorded in May, oil exports fell by almost a quarter and 60 percent during June and July, respectively. The June 1981 oil price blunder caused distress among economic agents (the firing of Diaz Serrano and televised menaces of Oteyza had been quite public).

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