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TIL DEBT DO US PART:
THE U.S. CAPITAL MARKET AND
FOREIGN LENDING, 1920-1955

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ABSTRACT

This paper analyzes U.S. experience with foreign lending in the half-century from 1920. A first question raised by this experience is what ignited the process of U.S. foreign lending. I conclude that lending was restrained at the beginning of the period by the debt overhang associated with reparations and by the post World War I disruption of international trade. Intervention by creditor country governments in the form of the Dawes Loan, League of Nations loans to Central Europe and reconstruction of the gold standard system was needed to initiate long-term capital flows. A second question is how to characterize the operation of the U.S. capital market once lending was again underway. I find that while lenders discriminated among potential borrowers and demanded compensation for default risk, they did so insufficiently. Neither an efficient-markets nor a fads-and-fashions model provides an adequate characterization of the data. A third question is whether default in the 1930s made it more difficult for countries to borrow in the 1940s and 1950s. I find no evidence that countries which interrupted debt service in the 1930s found it more difficult to borrow subsequently than did countries which maintained debt service continuously. Rather, default reduced access to private portfolio capital flows for defaulting and nondefaulting countries alike.

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1. Introduction

In happier times (the 1970s), countries were thought to pass through stages of indebtedness analogous to the stages of the international product cycle. According to the stages theory (e.g. de Vries, 1971), countries in the initial phases of the process (before "takeoff into indebtedness") lack the political stability and economic infrastructure required for borrowing abroad. Once these preconditions are met, foreign borrowing commences and proceeds at an accelerating pace. With capital inflows come development, rising exports and steadily increasing capacity to service foreign obligations. With rising domestic incomes come increased savings, diminishing the need to borrow abroad. A point of inflection is reached after which a country's indebtedness begins to decline. The rise of domestic incomes ultimately permits the debtor to liquidate its foreign obligations and to transform itself into an international creditor capable of lending to countries in the early phases of the cycle. The paradigmatic case is the United States, which seemed to pass through these stages in the century after 1820.

In these less optimistic times, a typical stages of indebtedness model would look rather different (e.g. United Nations, 1986). Countries' initial inability to borrow would be ascribed not to the absence of domestic preconditions but to caution and pessimism in international capital markets, often themselves a legacy of previous defaults. Only when some exogenous event such as an intergovernmental loan or domestic monetary expansion has a catalytic effect on the market does foreign lending commence. Undue pessimism gives way to excessive optimism as competing lenders jump on the bandwagon,

pushing loans upon reluctant borrowers and failing to distinguish between good and bad credit risks. Indiscriminate lending culminates in default, recrimination and retaliation as lending collapses and international trade is disrupted at the expense of economic growth in the capital-importing regions. Developing countries are unable to borrow for an extended period, returning in effect to the initial stage of the indebtedness cycle. Here the paradigmatic case is the half century commencing in 1920, when hesitancy gave way to a burst of foreign lending after 1923, default after 1930, and a considerable diminution of private external portfolio lending until the 1970s.

Both characterizations of the process of foreign lending are oversimplified and overly mechanistic. In some instances, foreign lending has taken place in response to promising development prospects, foreign funds have been profitably invested and debts have been repaid, as posited in the stages-of-indebtedness model. In others, funds have been provided indiscriminately, invested unproductively, and written off by the lenders. The question is what mix of the two phenomena characterizes the operation of the market. Similarly, the impact of default on the growth prospects of the indebted nations is less clear cut than most would have it. The impact of default on economic performance in indebted regions hinges in part upon its implications for access to the international capital market. If nonpayment damages the debtor's reputation sufficiently to impede its ability to borrow for an extended period, default may have serious economic consequences. Moreover, if the consequences spill over to other nations by leading to the collapse of the international capital market, default may have externalities, the costs of which are incurred by third parties.

In this paper, I view these issues through the lens of the last complete debt cycle, that spanned by the half-century from 1920. I start in Section 2 by considering the factors that ignited the process of foreign lending, focusing on the case of the United States. During the early 'twenties, in sharp contrast to the second half of the decade, relatively little U.S. foreign lending took place. This raises the question of what first discouraged the floatation of loans and then initiated the burst of lending. Was the outlook of capital-market participants transformed by a newfound ability of sovereign debtors to satisfy the preconditions for foreign borrowing, as stages-of-indebtedness models would suggest, or by developments largely exogenous to the debtors? I conclude that lending was restrained initially by the debt overhang associated with reparations and by the disruption of international trade -- i.e. as much by conditions in the world economy as by conditions in debtor countries. I suggest that the policies of the creditor governments -- specifically, the Dawes Plan, the League of Nations loans to Central Europe and reconstruction of the gold standard system -- had a catalytic effect on the market. I consider also the monitoring and moral suasion exercised by the U.S. Commerce and State Departments, and ask how they influenced the flow of funds.

In Section 3, I consider the behavior of the market once foreign lending was underway. At stake is the effectiveness with which the market allocated funds among competing borrowers. Did market participants discriminate adequately among good and bad risks? Did they take into account factors affecting the likelihood of default? To address these questions I analyze the pricing of foreign bonds, considering the determinants of spreads over the

risk-free interest rate and the implicit default probabilities they imply. The impression conveyed by this evidence is that lenders discriminated among borrowers and demanded compensation for the danger of default, but to a limited extent. Neither an efficient-markets nor a fads-and-fashions model provides a wholly adequate characterization of the operation of this market.

In Section 4 I consider the consequences of default from the perspective of relending. Did countries which serviced their loans through the 1930s reap the benefits of favored access to the capital market? If not in the 1930s then subsequently, did defaulting nations pay a price in the form of reduced access to international capital markets?

2. Initiating the Debt Cycle: The U.S. Capital Market in the 1920s

"Current judgments on American experience with the foreign loans of the 1920's might be refined and corrected if more attention were paid to the general economic situation at the time of their issue and its influence on their character and soundness."

Mintz (1950, p.4)

A. Overview

The United States is the paradigmatic example of a country which appears to have passed through stages of indebtedness, transfiguring itself from international debtor to international creditor in the span of 100 years. Foreign capital played an integral role in the development of American industry and in the opening of the West. Although the U.S. remained an attractive destination for foreign capital even as the economy matured, by the turn of the century American investors had already begun to direct their attention abroad. In the 15 years prior to World War I, U.S. foreign

Table 1
International Investment Position of the United States
1897-1939 (Excluding War Debts)

(in billions of dollars)

Item	End of July 1,		End of Year			
	1897	1914	1919	1930	1933	1939
United States investments abroad (private account)						
Long-term:						
Direct	0.6	2.7	3.9	8.0	7.8	7.0
Portfolio	0.1	0.9	2.6	7.2	6.0	3.8
Total long-term	0.7	3.5	6.5	15.2	13.8	10.8
Total short-term	--	--	0.5	2.0	1.1	0.6
Total long- and short-term	0.7	3.5	7.0	17.2	14.9	11.4
Foreign Investments in the United States:						
Long-term:						
Direct		1.3	0.9	1.4 ¹	1.8 ²	2.0
Portfolio ³	{3.1	5.4	1.6	4.3 ¹	3.1 ²	4.3
Total long-term	3.1	6.8	2.5	5.7	4.9	6.3
Total short-term	0.3	0.5	0.8	2.7	0.5	3.3
Total long- and short-term	3.4	7.2	3.3	8.4	5.4	9.6
Net creditor position of the United States:						
On long-term account	-2.4	-3.3	4.0	9.5	8.9	4.5
On short-term account	-0.3	-0.5	-0.3 ⁴	-0.7 ⁴	0.6	-2.7 ⁴
On long- and short-term account	-2.7	-3.8	3.7	8.8	9.5	1.8
U.S. Wholesale Prices (1897 = 100)	100	146.7	299.6	185.8	141.7	165.8

1. 1929 data.
2. 1934 data.
3. Includes miscellaneous investments.
4. Net debtor position.

Note: All data for 1919 and data for 1929 on foreign long-term investments in the United States are unofficial estimates; other data are as estimated by the Department of Commerce.

Source: Lewis (1938), Lary (1943), U.S. Department of Commerce (1976).

liabilities increased by approximately 4.6 per cent per annum but U.S. foreign assets increased at more than twice that rate.¹ (See Table 1.)

Three-quarters of U.S. foreign lending in this period took the form of direct investment, primarily in railways, sugar mill machinery and mining and drilling equipment. Although on the eve of World War I the U.S. remained a net foreign debtor, the position already was beginning to shift.

Wartime exigencies accelerated America's transition from debtor to creditor nation. Between 1914 and 1919, largely as a result of loans floated on behalf of the French and British governments and the liquidation of foreign holdings of U.S. securities, America's net debtor position of \$3.8 billion was transformed into a net creditor position of comparable magnitude.² There followed a surge in peacetime lending matched previously only by the United Kingdom in the period 1900-1913. U.S. investors lent more than \$10 billion to foreigners in the 11 years ending in 1930, 40 per cent in the form of direct foreign investment, 45 per cent through the purchase of long-term foreign securities. Contemporaries were struck by the growth of U.S. portfolio investment abroad, given the predominance of direct investment in American lending over previous decades. The earliest estimates, for 1897, show more than 90 per cent of U.S. foreign investment to have been direct, while estimates for 1914 suggest that the share of direct investment in the total was still more than 75 per cent; by 1930 the share of direct investment had fallen to less than half.

This overview of early 20th century U.S. experience suggests three questions. First, what explains the magnitude of U.S. foreign lending in the 1920s? Second, what explains the composition -- specifically, the rise in

portfolio investment? Third, what explains the timing -- specifically, the surge in the period 1925-28?

B. Magnitudes

A country's foreign lending is, by definition, the excess of domestic saving over domestic investment:

$$(1) \quad NFI = S*GNP - I*GNP$$

where NFI is net foreign investment (U.S. investment abroad net of foreign investment in the United States), GNP is gross national product, S = Gross Domestic Saving/GNP and I = Gross Domestic Investment/GNP.

Differentiating yields:

$$(2) \quad dNFI = GNP*dS - GNP*dI + (S-I)*dGNP$$

The first term on the right-hand side is the contribution of changes in saving to U.S. investment abroad, the second the contribution of changes in investment, the third the contribution of GNP growth. In Table 2 this decomposition is applied to U.S. data for the early 20th century. In contrast to the 1970s, when fluctuations in investment were mainly responsible for driving the current account (Sachs, 1979), during this earlier period punctuated by war savings fluctuations generally played the more important role.

If we compare the prewar decade (1904-13) with that encompassing the war years (1909-18), the increase in the net private capital outflow is more than accounted for by the wartime surge in saving. The resulting capital outflow

Table 2
 Change in U.S. Net Foreign Investment and Its
 Proximate Determinants, 1904-1928

(in millions of \$)

	Change in Net Foreign Investment	Change Due to Saving	Change Due to Investment	Change Due to Growth
1904-13 to 1909-18	376	642	-306	37
1909-18 to 1914-23	317	-5	123	197
1914-23 to 1919-28	-56	-546	329	168

Note: Components do not sum to totals because of the residual (a small interaction term).

Source: Calculated from Ransom and Sutch (1983), Appendix Tables A-1, col. 5, and E-1, cols. 2 and 8.

was moderated, in fact, by the concurrent rise in investment. In contrast, the growth of GNP accounts for a relatively small share of the growth in U.S. foreign investment. The net private capital outflow is even larger in the subsequent period, 1914-23. Since the savings rate was almost identical immediately before and after the war, it contributes little to changes in U.S. foreign investment. About a third of the increased capital outflow is due to the fall in gross private investment after the war, some two thirds to the growth of nominal incomes.

Moving from 1914-23 to 1919-28, net private foreign investment falls. This reflects the fact that net private foreign investment was actually greater during the war than during the boom period of foreign lending in the second half of the 1920s. Wartime lending took different forms, notably the repurchase of American obligations held by foreigners. And U.S. foreign lending in the second half of the 1920s vastly exceeded that in any previous peacetime period. But it is striking that the volume of net lending in the second half of the 1920s was by no means historically unprecedented. The decline in the capital outflow between 1914-23 and 1919-28 is fully accounted for by the tendency of savings to return to its pre-1909 level.

A full explanation for U.S. foreign lending must also consider the question from the perspective of the borrowing countries. The excess of U.S. savings over investment had as its counterpart a shortfall of foreign savings over foreign investment. In analyzing that shortfall, it is important to distinguish Europe from other parts of the world, as in Table 3. In the first half of the 'twenties, Europe's savings-investment balance reflected both a drastic decline in savings and exceptional returns to investment. Wartime

destruction of plant, equipment and infrastructure had reduced European industrial production and national income below prewar levels.³ Since this decline in incomes was recognized as temporary, Europeans wished to reduce their savings to smooth consumption. Moreover, the quick returns to be reaped from repairing industrial and commercial capacity provided exceptional incentive to invest.

In addition to the impact of the war on productive capacity and utilization and its direct implications for European savings and investment, there was the recycling associated with reparations. Although great play has been given to similarities between German reparations in the 1920s and the OPEC surpluses of the 1970s (e.g. Balogh and Graham, 1979), the parallels should not be pushed too far. So far as U.S. foreign lending was concerned, the essence of the reparations question was Germany's need to shift resources into sectors producing traded goods and her desire to defer large resource transfers until productive capacity, financial balance and political stability had been restored. In addition, because the German authorities pursued a tight monetary policy in the wake of hyperinflation, there was a persistent high demand for working capital, further increasing the incentive to borrow abroad. Each of these factors contributed to Germany's demand for foreign funds. A separate question is whether it was sensible for American lenders to willingly provide the supply, given the ongoing dispute over reparations.⁴

In contrast to Europe, the economies of Latin America and the Far East had been less severely disrupted. Hence incentives for investment in Latin America were rather different from those in the U.S. and Europe. American investors were attracted by the prospects for exploiting raw material

Table 3

Distribution of American Foreign Security Issues, 1919-29

(percentages of total, total in millions)

Year	Europe %	Canada %	Latin America %	Asia %	Total \$m	Total in Constant (1929) Prices (\$m real)
1919	60.3	30.4	8.9	0.2	377.5	259.6
1920	51.5	38.2	10.1	0.0	480.4	334.4
1921	26.2	32.5	38.6	2.5	594.7	580.5
1922	29.5	23.5	31.2	15.6	715.8	704.3
1923	26.1	29.0	27.7	17.0	413.3	391.0
1924	54.7	15.7	19.4	9.9	961.3	934.7
1925	58.9	12.8	14.8	13.2	1067.1	983.0
1926	43.5	20.3	33.1	2.8	1110.2	1056.4
1927	44.2	18.1	26.0	11.5	1304.6	1299.3
1928	48.0	14.8	26.5	10.5	1243.7	1221.3
1929	21.5	44.0	26.5	7.8	658.2	658.2

Note: Components may not sum to 100 due to rounding.

Source: Computed from American Underwriting of Foreign Securities (various issues). The final column deflates the current price total by U.S. wholesale prices, from U.S. Department of Commerce (1976).

endowments and aiding government programs to promote industrialization. Outside Europe, Americans were particularly attracted to investments in infrastructure (public utilities, railways, etc.). Between 1917 and 1924, U.S. investment in Latin America and the Far East remained small by the standards of subsequent years, although there were exceptions to the rule: \$230 million and \$224 million of Latin American issues were offered in 1921 and 1922 and \$100 million of bonds were floated on behalf of the Netherlands East Indies in 1922. There then followed a dramatic surge in the share of U.S. foreign investment destined for Latin America. Between 1925 and 1929, Chile, Argentina, Brazil and Colombia together accounted for a quarter of U.S. foreign lending.

C. Composition and Timing

Although the dominance of portfolio investment was the most striking aspect of international capital market experience in the 1920s, direct investment continued to comprise a significant share of the U.S. total. Over a third of U.S. direct foreign investment between 1924 and 1929 took the form of purchases of and investment in public utilities, nearly quadrupling U.S. holdings in this sector. Primary production (agriculture, mining and petroleum production) accounted for 28 per cent of the total, manufacturing for 26 per cent.⁵ Direct foreign investment was disproportionately destined for South America, in contrast to portfolio investment, which was most heavily directed toward Europe.

Relative rates of return played some role in allocating U.S. savings between domestic and foreign uses. Foreign bonds were attractive for their

Relative Interest Rates and Foreign Issues, 1922-1929

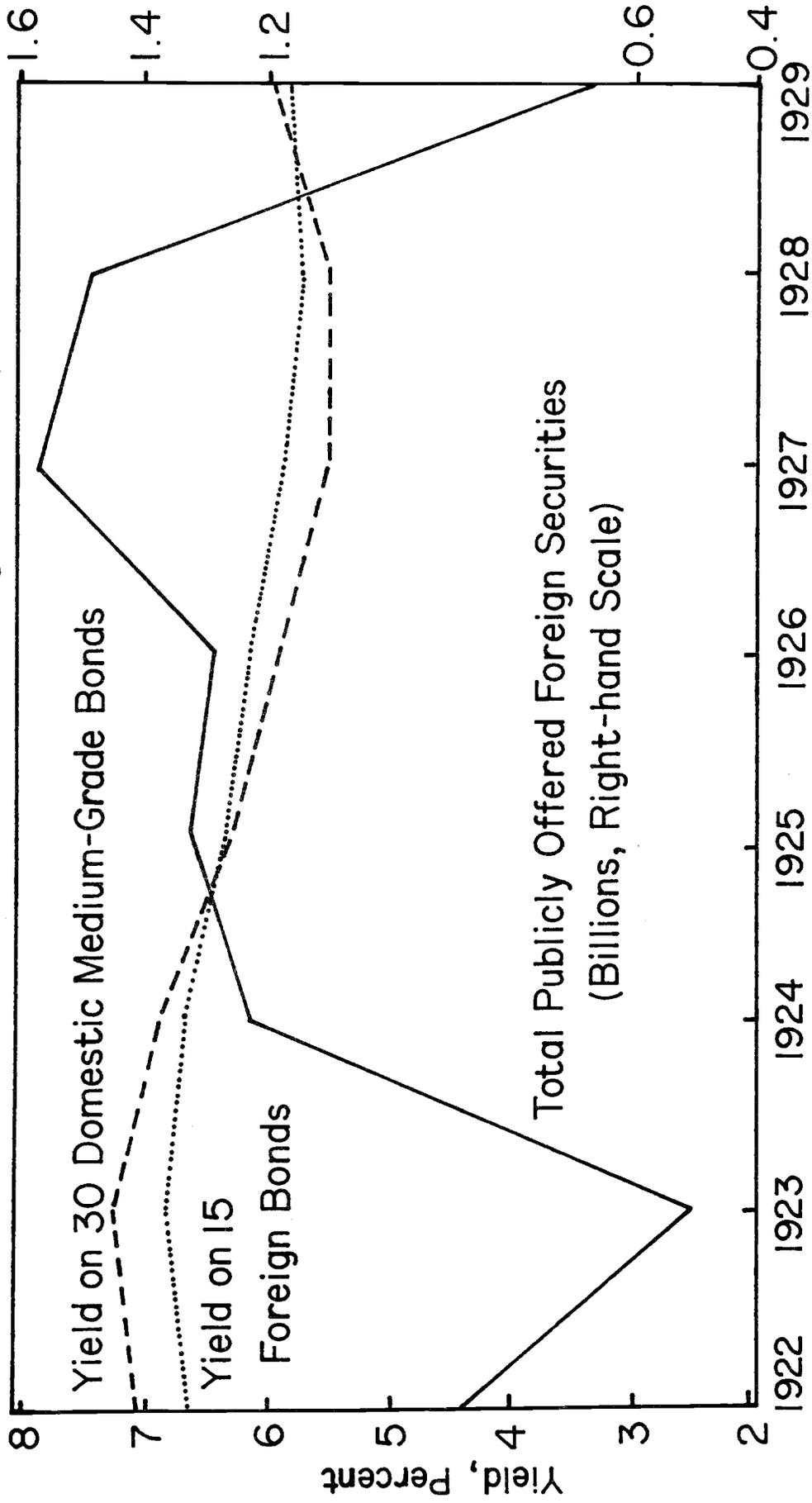


Figure 1

yields, which exceeded those on U.S. government securities and high-grade corporate bonds, if not always those on domestic medium-grade bonds. Despite sterilization by the Federal Reserve, a steady gold influx in conjunction with the expansion of bank credit depressed the returns on domestic assets. After 1921 the rate on bankers' acceptances declined to less than 4 per cent, while call money rates fluctuated between 2 and 5 per cent. Domestic bond yields declined from 1923 through 1928. In a period such as 1927-28 when medium-grade domestic bonds yielded only 5½ per cent, foreign bonds which might yield seven or eight per cent were understandably attractive.

Figure 1 shows the relationship of the yields on domestic and foreign dollar bonds over the 1920s. The yield on domestic medium-grade bonds is Moody's Baa rate, that on foreign bonds Lary's (1944) sample of 15 foreign issues. Also plotted is the value of new capital issues on behalf of foreign government and corporate borrowers.⁶ The figure shows that, as the yield on domestic medium-grade bonds declined between 1923 and 1927 and that on foreign bonds grew increasingly attractive, U.S. foreign lending increased. The fall in U.S. foreign lending after 1927 coincides similarly with a fall in the spread of foreign over domestic yields. Yet rates of return by themselves account for little of the variation in the volume of foreign lending. The role of other factors -- specifically risk -- is especially evident before 1924, when many U.S. investors seem to have been unwilling to lend to foreigners at any price. Foreign lending rises thereafter despite the absence of any noticeable change in relative rates of return.⁷

The risks which deterred foreign lending in the early 1920s are most evident in Central Europe. So long as the level of their reparations

obligations remained uncertain, it was unclear whether the nations of this region would have the resources needed to service additional debt. If they had the resources, it was not evident that they would succeed in mobilizing them. In Germany and many of the newly-created nations of Eastern Europe, the stability of governments remained in doubt. The successor states of the Austro-Hungarian Empire had no tax systems in place. Hyperinflation was evidence of their failure to balance government budgets through conventional means. In effect, the inability of these countries to borrow in the early 1920s reflected the operation of two factors also impeding borrowing in the 1980s: a large debt overhang in the form of existing obligations (which in the 1920s mainly took the form of war debts and reparations), plus questions about ability of governments to mobilize export earnings in order to service external debts.

Yet the perception that foreign lending was risky was not limited to Central Europe. It applied also to countries with relatively small debts and relatively stable governments. Compared to the levels achieved in the second half of the 'twenties, lending to Latin America remained depressed. In the immediate postwar years, foreign issues consisted primarily of high-quality Canadian bonds and loans to the governments of Norway, Sweden and Switzerland, nations that had remained neutral during the war and whose credit was beyond reproach. Other countries obtained long-term loans from the U.S. only under unusual circumstances and at exceptional cost: at 7.7 per cent, yields to maturity on long term loans issued in 1920-21 were nearly 50 per cent higher than yields on issues floated during the early war years and 15 per cent higher than they were to become in 1922-24.⁸

Why did countries outside Central Europe find it so difficult to borrow in the first half of the 1920s? The immediate postwar years were overshadowed by the Bolshevik revolution. In many countries, labor movements and affiliated political parties had gained new influence during hostilities, and it was unclear how radical their programs might prove if and when they took office. Governments deadlocked over the question of who should pay for the war were left with no alternative but the inflation tax. The option of a capital levy was seriously considered in every major European country, surely discouraging investors, domestic and foreign alike, from holding claims on governments.⁹ "Post-war Europe," in the words of Stoddard (1932, p.85), "could hardly be rated as an 'A-1' investment opportunity."

But the dominant factor was surely the depressed level of world trade and uncertain prospects for its recovery. Export volumes worldwide remained depressed relative to 1913 levels, as many governments retained tariffs and quantitative restrictions imposed during the war. Unless trade recovered, the ability of countries to generate foreign exchange receipts and service external debts would be permanently reduced. Contemporaries saw monetary stabilization -- specifically a return to the gold standard -- as a necessary condition for the restoration of domestic prosperity and the reduction of restrictions needed for the recovery of trade. Only with the termination of Central European hyperinflations, capped by Germany's stabilization in 1923-24, and the international movement back onto the gold standard did investors conclude that trade ultimately would recover and did the capital markets take heart.

The recovery of international trade hinged, in the view of observers, on the financial restoration of Central Europe, notably of Germany, the region's

leading industrial and commercial power. Hence the 1923-24 League of Nations Loans to Austria and Hungary and the 1924 Dawes Loan to Germany, by cementing that restoration, had a catalytic impact on U.S. lending to the region. (Details on the League Loans are provided in Table 4.) If a lesson for the 1980s is to be drawn from the initiation of this earlier debt cycle, it is that when disruptions to trade and a debt overhang interrupt the flow of lending, outside intervention by governments or international institutions may serve to restart it.

Why were the League Loans successfully placed? First, they offered exceptionally attractive returns. The 1923 League Loan to Austria bore a yield to maturity of 7.8 per cent. The 1924 League Loan to Hungary offered a yield to maturity of 8.6 per cent; on the day it was floated in London, British Consols were yielding only half that amount.¹⁰ But while a risk premium of 100 per cent eliminates much of the mystery, it does not provide the entire answer. Insofar as risk increases with the premium charged, there may be no interest rate at which the market takes up the loan. An important part of the explanation must lie, therefore, in governmental supervision and sponsorship. Before the loans received League of Nations support, governments engaged in discussions with the Financial Committee of League, involving plans to eliminate the fiscal deficit, to reform the central bank and to strictly control future expenditures. In both the Austrian and Hungarian cases, the League appointed a Commissioner-General resident in the country, who was granted extraordinary access to government officials and vested with responsibility for supervising the collection of loan service and verifying the government's adherence to the protocols negotiated with the League.

Table 4
League Loan Debtors and Creditors, 1923-28

Date	Name	Amount (£ millions)
1923	Austrian Government Guaranteed Loan	33.6
1924	State Loan of the Kingdom of Hungary	14.2
1924	Greek Government 7 per cent Refugee Loan	12.2
1925	Municipality of Danzig 7 per cent Mortgage Loan	1.5
1926	Kingdom of Bulgaria 7 per cent Settlement Loan	3.4
1927	Free City of Danzig 6½ per cent (Tobacco Monopoly) State Loan	1.9
1927	Republic of Estonia 7 per cent (Banking and Currency Reform) Loan	1.5
1928	Greek Government 6 per cent Stabilization and Refugee Loan	7.5
1928	Kingdom of Bulgaria 7½ per cent Stabilization Loan	5.4
Total		81.2

Creditors for League Loans

	<u>Per Cent of Total Loans</u>
Austria	3.2
Belgium	1.2
Czechoslovakia	4.8
France	3.0
Great Britain	49.1
Greece	3.3
Holland	1.8
Hungary	0.4
Italy	5.9
Spain	2.6
Sweden	1.6
Switzerland	4.0
United States	<u>19.1</u>
	100.0

Source: League Loans Committee, Third Annual Report, London, June 1935, pp. 60 and 61.

Thus, very extensive measures were taken not only to eliminate domestic sources of fiscal imbalance but to establish an institutional means whereby the borrowing country's progress might be monitored. It is no surprise that potential investors viewed the League Loans differently from ordinary bond issues. Moreover, in the case of the Austrian Loan, the sponsoring governments effectively collateralized the loan by depositing bonds in its amount in earmarked accounts. In the case of other League Loans, such as that to Hungary, although no such collateral was provided, investors were left with the impression that the sponsoring governments would take whatever steps proved necessary to insure continued debt service.

Unlike Austria and Hungary, Germany's negotiation of a foreign loan did not occur under League of Nations aegis. Due to its entanglement with the reparations issue, it resulted instead from an American plan to assemble a committee of business experts to deal with the external problem. The Dawes Plan announced to the public in April 1924 included a loan in the amount of 800 million RM, half to be floated in the U.S., a quarter in Britain, and the remainder in France, Belgium, Holland, Italy, Sweden and Switzerland. As with the League Loans, the market's response was overwhelming. The issue was oversubscribed in Britain by a factor of 13, in New York by a factor of ten.

The enthusiasm with which American investors took up the Dawes Loan is striking in the light of earlier skepticism about European floatations. Even the bankers had greeted the plan with considerable skepticism. In part, success resulted from propitious financial market conditions. The Federal Reserve discount rate had been reduced in the spring of 1924 by an exceptionally large amount, from $4\frac{1}{2}$ to 3 per cent, rendering foreign

investments attractive for their return.¹¹ The American tranche was sold to the public at 92, to be redeemed at 105; together with a nominal interest rate of 7 per cent, this meant that it yielded 7.6 per cent. In addition, the U.S. government and New York banks had pressed for British and French involvement, partly to create domestic interests in those countries that would oppose giving priority to reparations over commercial liabilities. Involving foreign investors increased U.S. confidence that Dawes Loan obligations would not be subordinated to reparations. A final explanation for the success of the loan lies in the aggressive publicity campaign launched in its support. Even President Coolidge urged patriotic American investors to subscribe.

Once the pump was primed by these measures to buttress financial stability in Europe and to ensure the restoration of international trade, it continued to operate on its own. For many investors, foreign dollar bonds had been until recently an unfamiliar instrument. But American investors grew accustomed to holding bonds through the good offices of the U.S. Treasury, which aggressively administered the Liberty Loan campaign during World War I. Under the Liberty Loan Act of 1917, the Secretary of the Treasury was authorized to purchase obligations of foreign governments at war with enemies of the United States. U.S. purchases of foreign securities were financed by selling the American public dollar-denominated securities in matching amounts. The rate of interest charged the European borrowers was simply the rate required by American investors plus a small spread to cover costs. American investors encouraged to subscribe by extensive publicity campaigns did so in the amounts shown in Table 5. "Millions of individuals who had never clipped a coupon or owned a share of stock, now became "investment-minded" for the first time in their lives."¹²

Table 5

Loans by the United States Government, Under the
Liberty Loan Act, 1917-22^a

(millions of dollars, calendar years)

Borrower	1917	1918	1919	1920-22	Total
Belgium	75.4	141.6	121.7	8.5	347.2
Cuba	--	10.0	--	-2.3	7.7
Czechoslovakia	--	5.0	49.3	7.7	62.0
France	1,130.0	966.4	801.0	35.9	2,933.3
Great Britain	1,860.7	2,122.0	287.4	-133.6	4,136.5
Greece	--	--	5.0	10.0	15.0
Italy	400.0	776.0	444.9	27.1	1,648.0
Rumania	--	--	25.0	-1.8	23.2
Russia	187.7	--	--	--	187.7
Serbia	3.0	7.8	16.0	-0.7	26.1
Total	3,656.8	4,028.8	1,750.3	-49.2	9,386.7

a. Compiled from data given in the Combined Annual Reports of the World War Foreign Debt Commission, Fiscal Years 1922-26 (1927), pp. 2, 318-25, by Lewis (1938). For 1919 the British figure and the total are both net, after deductions have been made to take account of 7.6 million dollars repaid by Great Britain during that year. The minus signs used in the 1920-22 column indicate repayments in excess of cash advances.

Source: Lewis (1938), p. 362.

American investors' appetite for foreign bonds having been awakened, changes in the scope and structure of U.S. financial markets helped to satisfy it. Sales of foreign dollar bonds were buoyed by the growth of the investing public. In 1914, by one estimate, there were no more than 200,000 American bond buyers in a market limited largely to Boston and its environs.¹³ But by 1922, when an income of \$5,000 a year was required, according to reputable investment bankers, to participate in the bond market, the annual incomes of nearly 600,000 Americans exceeded this amount, and by 1929 there were more than one million such individuals.¹⁴

Both the wartime and postwar transformation of American commercial banking and the growth of the investment trust reinforced these trends. Before World War I, few national banks had engaged in the securities business. Only in exceptional instances did they do more than provide their customers information. But the banks became heavily involved in the wartime campaign to distribute Liberty Bonds. Following the war's conclusion, they attempted to retain as clients purchasers of Liberty Bonds by offering them foreign obligations. Many investors who developed a newfound interest in the bond market grew accustomed to buying and selling through the bond departments of commercial banks, which expanded dramatically in consequence. Between 1922 and 1931, the number of national banks engaged in securities operations through their bond departments increased from 62 to 123.

By establishing a security affiliate, banks could engage in the entire range of bond-market activities without the restrictions of federal or state banking laws. A security affiliate also permitted them to circumvent the barriers to interstate branching. Between 1922 and 1931, the number of

national bank security affiliates grew from 10 to 114. By 1919 National City Bank's underwriting and brokerage affiliate, the City Company, had opened branch offices in 51 cities, often on the ground floor to encourage walk-in business. It publicized the attractions of a bond portfolio through advertisements in popular magazines such as Harper's and Atlantic Monthly.

Banks and their affiliates took an active role not only in retailing but in the origination of foreign bond issues. In the 1920s American banks for the first time expanded overseas on a significant scale. Prior to the passage of the Federal Reserve Act, national banks had been prohibited from branching abroad. Although private banks and some state banks were permitted to do so, as late as 1914 there existed only 26 foreign branches of American banks. The Federal Reserve Act relaxed the constraint on foreign branching, however, and World War I, by disrupting the ability of European banks to extend export credits, provided the impetus for American banks to move overseas. Although some retrenchment occurred in the years to follow, by 1920 the number of foreign branches of U.S. banks had increased to 181. These branches provided a steady stream of contacts between American bankers and potential foreign borrowers.¹⁵

The need for a diversified portfolio, impressed upon potential purchasers by responsible salesmen, limited the involvement of the small investor.¹⁶ Increasingly, however, this constraint was relaxed by the growth of the investment trust. A forerunner of the modern mutual fund, the investment trust pooled the subscriptions of its clients, placed their management in the hands of specialists, and issued long-term securities entitling holders to a share of the organization's earnings. The modern investment trust originated

largely in Britain, where it traditionally specialized in foreign bonds.¹⁷ When the investment trust first appeared on a significant scale in the United States after 1921, many of the new institutions followed British example by investing heavily in foreign bonds.¹⁸

Thus, in the 1920s as in the 1970s, the surge in foreign lending was greatly facilitated by financial innovation. The rapid development of retailing and underwriting activities and the proliferation of investment vehicles provided financial organizations both incentive and opportunity to increase their participation in foreign bond markets. While the growth of the investing public and the low yields on domestic bonds created an incipient demand for foreign assets, competition among financial institutions provided the supply. It has been asserted, following Hiram Johnson, head of the Senate's 1931-32 Foreign Bond Investigation, that these institutions competed excessively, pushing loans on inexperienced foreign governments and forcing bonds on naive domestic investors.¹⁹ The banking community counters that established firms with reputations to protect had no incentive to promote questionable investments, since "such securities would damage the underwriter's credibility with investors, making it more difficulty for the underwriter to sell securities in the future."²⁰ While this logic is impeccable, it may apply imperfectly to the 1920s by virtue of the fact that many institutional participants in international bond markets were recent entrants with little if any reputation to protect. The model fits better in Britain, where the underwriting of foreign securities was handled almost exclusively by a small number of long-established firms which agreed to limit the extent of competition, dividing the field "among themselves and

develop[ing] more or less permanent financing arrangements with various foreign issuers."²¹ In the U.S., a distinctive feature of the market environment in the 1920s was the extent of entry. Mintz (1950) notes that the loans issued by various groups of banking houses in the 1920s fared very differently, with only 14 per cent of the (non-Canadian) loans issued by three participants ultimately defaulting, but nearly 90 per cent of the loans issued by six other banking houses falling into default. Although Mintz is careful not to identify the banking houses, the timing of their loans suggests that the first group was comprised of long-time participants and the second of recent entrants. One might speculate that firms in the second group were simply less well managed, but it is also likely that their managements were more inclined toward risky issues since they had less reputation to lose in the event of default. If, in the long run, track record in comparison with incumbants will drive unsuccessful entrants out of the market, there is no reason to suppose that these forces had much effect between 1921 and 1929.

Critics blamed loan pushing on lax regulation by public authorities. Until 1933 many of the operations of securities affiliates remained unregulated. The popular argument, especially after the Wall Street Crash and the onset of default, was that the establishment of bank securities affiliates brought into conflict the bank's obligation to provide prudent advice to its depositor-investors and its desire to sell the security issues it originated. Even if the affiliate did not unduly favor the securities of its customers, with a bond distribution network in place the affiliates had an interest in promoting the sale of bonds even when the supply of high-quality issues declined. This notion that the establishment of affiliates led the banks to

encourage reckless investment in foreign bonds contributed to the passage in 1933 of the Glass-Steagall Act outlawing the securities affiliate.²²

The U.S. State and Commerce Departments also can be criticized for inadequately screening individual loans. Banks originating foreign loans were asked only to consult the State Department prior to offering an issue to American investors. The State Department then consulted with the Treasury and Commerce Departments before announcing whether or not it had an objection. While the program was voluntary, bankers hesitant to cooperate risked incurring the wrath of the Administration and losing its assistance in the event of default. Critics such as Senator Carter Glass of Virginia complained that the program was at the same time insufficiently stringent to prevent dubious foreign loans and insufficiently clear to prevent potential investors from interpreting a statement of "no objection" as the government's seal of approval.²³

The government's activities involved both education and data gathering. Commerce attempted to make clear to American investors that German bond issues ranked after reparations in priority of repayment. It published summaries of economic conditions in foreign countries. In addition, its agents furnished information on particular enterprises and investment projects, which the Commerce Department mailed to hundreds of American banks. These agents were sometimes able in their official capacity to obtain financial information to which the bankers did not have access. Hence many U.S. banks came to rely on assessments by Commerce Department agents of potential foreign investment projects as part of normal business practice.²⁴

The principal instances in which the U.S. authorities made use of their oversight of foreign lending were in connection with foreign governments owing

war debts to the United States.²⁵ A strict loan embargo was imposed against the Soviet Union. Washington disapproved a prospective Rumanian loan in 1922 because of the absence of a war debt funding agreement. It disapproved of refunding issues for France until that country negotiated a war debt settlement. Naturally, this policy proved unpopular in Europe, the French threatening for example to impose a tariff on U.S. automobiles, which led in 1928 to permission to float French industrial securities on the American market.²⁶ This was only a particular instance of a general phenomenon, that "[i]n almost all cases where the Government entered an objection, it could be gotten round or in time removed" (Feis, 1950, p.13).

Compared to their attitude toward other countries, U.S. authorities were surprisingly lenient in their treatment of German loans. While Commerce Department agents in Berlin continually reminded Washington of the magnitude of the reparations burden and of the danger that Germany would be unable to both pay reparations and service municipal and corporate loans, the position of the U.S. authorities remained ambiguous. Commerce continued to supply the leading investment houses with information on the finances of municipalities and even the prospects for specific investment projects. While the warnings of its agents were passed on to the U.S. investment banking community, few if any German loan applications met with formal objection. Starting in 1925, the Commerce and State Departments issued somewhat ambiguous warnings to the bankers. The State Department alluded to the possibility of an embargo on loans to German states and municipalities in instances where such loans might hamper transfers under the Dawes Plan.²⁷

"While the Department of State raises no objection to this flotation...it feels that American bankers should know that the amount of German loans has become so large, and the control of

exchange on behalf of the Allies is such, as to raise a question as to whether or not it may be very difficult for German borrowers to make the necessary transfers."²⁸

Why was German borrowing treated so leniently? It is not that Commerce Department officials failed to recognize the danger of default. As early as 1925 internal memoranda warned of an investment "debacle," and in 1928 the problem had achieved such proportions that middle-ranking officials were warned to distance themselves from German lending to protect the government in the event of default.²⁹ But the State Department overrode the hesitations of Commerce out of a desire to maintain German stability as a bulwark against Bolshevism. Moreover, Andrew Mellon, Secretary of the Treasury for much of the 1920s, actively represented the bankers' desire that German lending be left unfettered. And ultimately, U.S. officials believed deeply in the laissez faire approach to foreign lending -- that the market knew best.

3. Pricing Foreign Debt

"Why did these people lend money to Austria, or Japan, or Germany, or Argentine, or Belgium? Here, statistics are of little value. Men have not yet found a way of measuring the motives of other men."

Morrow (1927).

A standard criticism of the international capital market in the 1920s is that it failed to discriminate adequately among borrowers. Precisely the same criticism has been leveled at U.S. creditors in the 1970's; Guttentag and Herring (1985) argue that rates charged sovereign borrowers on bank loans could not have adequately incorporated the determinants of country-risk premia because they varied so little across loans. Edwards (1986) has attempted to test this hypothesis formally for both bank loans and bonds, using regression

to analyze the relationship between ex ante spreads and correlates of the country risk premium such as debt, reserves, investment, the current account and imports as shares of GNP, the ratio of debt service to exports, the rate of economic growth, the real exchange rate, and characteristics of the borrower and the loan. His results for the bond market were mixed: rates charged borrowers were found to rise with the debt/GNP ratio, to fall with the investment/GNP ratio, and to decline with the maturity of the loan. The first two of these results are consistent with the notion that bondholders distinguished among good and bad credit risks. The coefficients on the other variables were uniformly insignificant, however, suggesting that investors paid little attention to other plausible indicators of country risk when pricing foreign bonds.

These results provide a benchmark for comparison with my analysis of the bond market in the 1920s. To analyze the determinants of the ex ante rate of return required by bondholders in the 1920s, I employ data on the yield to maturity on issue for bonds floated in the United States between 1920 and 1929. These data, compiled by Lewis (1938), include all foreign securities issued and taken in the United States, both securities publicly issued and privately taken. They exclude portions of such issues sold on foreign markets (so far as could be determined) and securities of American-controlled enterprises (which are considered direct investment), thereby differing from other sources of information on the subject such as the Department of Commerce's lists of foreign loans. (Both public and private issues are similarly included in modern studies such as Edwards's.) The par value of loans and the yield to maturity are provided by year of issue, domicile of

borrower, maturity (long-term loans versus short-term loans of five years or less), and type of borrower (national and provincial, municipal or corporate). For the 1920s the required information is provided for 383 categories of bonds. These data were then linked to information on the characteristics of the borrowing countries. It was not possible to obtain information on all of the independent variables used in modern analyses, regrettably insofar as this renders the results to follow imperfectly comparable. But just as estimates of national income, investment and related variables for the 1920s are not available to historians, such estimates were not available to bondholders and hence were unlikely to be used in pricing foreign bonds. The readily-available indicators of policy stance were foreign trade and public finance statistics.³⁰ I therefore use the trade and budget balances as measures of domestic policy. Contemporaries argued that a balance-of-trade surplus should have been related negatively to the required rate of return on bonds, since the larger the surplus the greater the export receipts available for debt service. Similarly, a government budget surplus should have been negatively associated with the required rate, since any budget surplus could be used to retire domestic debt and reduce the government's total debt burden.³¹ Data on these variables were drawn from publications of the League of Nations for 221 of Lewis's 383 observations.³² Trade and budget surpluses are measured as shares of imports and government expenditures, respectively.

The dependent variable is the spread over domestic risk free rates, defined as the foreign yield minus the yield on securities rated Baa by Moody's (annual averages). The value of the loan is divided by the value of exports to control for country size.³³ Regression results are reported in

Table 6. The omitted alternatives (1929, Venezuela and corporation) are picked up by the constant term.³⁴ The spread varies considerably, with a mean of 0.46 and a standard deviation of 1.20. According to the regressions, that on short-term loans averaged 73 basis points below that on long term loans. Although this result contrasts with that obtained by Edwards for the 1970s, who found the yield on short-term bonds to be higher than that on long-term issues, it is consistent with the presumption that the yield curve should be positively sloped. The negative coefficients on public loans (both sovereign and municipal) indicates that the public demanded a smaller risk premium than on corporate bonds. This contrasts with Edwards' (1986) finding for the 1970s of no discernible difference.

The remaining variables are dummies for countries, trade and budget balances, and dummies for years prior to 1929. The first can be interpreted as proxies for national reputation, the second as proxies for current policy, the third as components of the spread not attributable to other characteristics of the loans. The coefficients on years indicate some tendency for the spread to rise over the course of the 1920s, as if market participants recognized the increasingly risky nature of foreign loans. According to the country dummies, the best bond-market reputations were enjoyed, not surprisingly, by Scandinavian countries (Denmark, Norway, Sweden), members of the British Commonwealth (Australia, Canada, Ireland), small Western European countries (Switzerland, the Netherlands), and small Central American republics economically or politically dependent on the United States (Cuba, the Dominican Republic, Haiti, Panama).³⁵ There were good reasons to expect these countries to service their obligations promptly;

Table 6

Bond Spreads: Pooled Data 1920-29

(dependent variable is spread over Moody's Baa bond yield)

Variable	(1)	(2)
Constant	0.82 (4.56)	0.71 (5.94)
Value/Exports	-0.01 (0.53)	-0.01 (0.38)
National	-0.29 (3.29)	-0.28 (3.24)
Municipal	-0.12 (1.44)	-0.12 (1.46)
Short Term	-0.73 (8.37)	-0.73 (8.27)
Trade Surplus	-0.23 (0.96)	--
Budget Surplus	0.09 (0.26)	--
1920	-1.12 (3.70)	-1.09 (4.51)
1921	-1.89 (3.82)	-1.92 (4.01)
1922	-0.65 (3.16)	-0.67 (3.30)
1923	-0.97 (5.47)	-1.00 (6.05)
1924	-0.67 (4.65)	-0.70 (5.00)
1925	-0.13 (1.10)	-0.14 (1.16)
1926	-0.05 (0.40)	0.01 (0.09)

Table 6, Continued

Variable	(1)	(2)
1927	0.21 (1.70)	0.19 (1.51)
1928	-0.18 (0.12)	-0.20 (1.66)
Austria	0.75 (2.80)	0.97 (7.32)
Belgium	0.34 (0.78)	0.50 (1.30)
Bulgaria	1.51 (4.76)	1.66 (6.32)
Czechoslovakia	1.21 (5.95)	1.31 (7.18)
Denmark	-1.26 (6.82)	-1.12 (10.38)
Finland	0.31 (1.51)	0.45 (3.58)
France	0.35 (1.20)	0.47 (2.11)
Germany	0.26 (1.25)	0.42 (3.90)
Greece	2.26 (5.05)	2.39 (6.35)
Hungary	1.21 (6.82)	1.22 (6.82)
Ireland	-0.82 (4.75)	-0.89 (6.55)
Italy	0.26 (0.95)	0.41 (0.18)
Netherlands	-0.73 (2.54)	-0.53 (3.41)
Norway	-0.86 (3.45)	-0.67 (6.27)

Table 6, Continued

Variable	(1)	(2)
Poland	1.66 (8.71)	1.81 (16.03)
Rumania	1.56 (7.75)	1.69 (10.94)
Sweden	-1.48 (8.13)	-1.38 (10.51)
Switzerland	-1.05 (4.27)	-0.87 (6.20)
Yugoslavia	0.96 (2.99)	1.11 (4.01)
Canada	-1.45 (9.78)	-1.35 (11.17)
Argentina	0.54 (2.74)	0.62 (3.47)
Brazil	0.80 (4.54)	0.94 (7.81)
Bolivia	1.65 (8.47)	1.56 (8.77)
Chile	0.46 (2.48)	0.45 (3.13)
Colombia	0.88 (4.42)	1.01 (7.64)
Peru	1.03 (6.70)	1.00 (7.16)
Costa Rica	1.01 (5.38)	1.11 (8.41)
Cuba	-0.57 (2.25)	-0.52 (2.18)
Dominican Republic	-0.31 (2.24)	-0.21 (2.55)
Haiti	-0.41 (2.05)	-0.28 (2.11)

Table 6, Continued

Variable	(1)	(2)
Panama	-0.28 (0.23)	-0.16 (0.13)
Australia	-0.83 (2.43)	-0.71 (2.75)
Japan	0.21 (0.91)	0.36 (2.71)
Number of Observations	221	221
R ²	.88	.88

Notes: White-corrected t-statistics in parentheses. The omitted alternatives are 1929, Venezuela and corporations.

Source: See text.

bondholders' willingness to lend to them at favorable rates indicates some significant ability to discriminate among potential borrowers. Conversely, high rates were charged the new nations of Eastern Europe (Bulgaria, Czechoslovakia, Hungary, Poland, Rumania), a country engaged in an international dispute (Greece), and Latin American nations with a history of debt service disruptions (Bolivia, Peru). Again, given the political and economic situation in these countries and, in the case of Latin America, their past record of servicing debt, bondholders' tendency to demand a risk premium indicates some ability to discriminate among borrowers. At the same time, the relatively small risk premia charged Germany, the leading borrower of American funds, and a number of the larger South American republics raise questions about whether bondholders discriminated adequately.

The coefficients on the trade and budget balances provide additional information relevant to this question. While the coefficient on the trade surplus is negative as anticipated, it differs insignificantly from zero. Moreover, the coefficient on the budget surplus is positive, although essentially zero. From this evidence, it does not appear that bondholders attached much weight to readily-available indicators of the current macroeconomic situation when determining the price at which to lend. It would seem that reputation more than current economic developments influenced bond market participants.

The remaining variable is loan size (scaled by exports). While its coefficient is negative, it differs insignificantly from zero, as in Edwards's sample of bonds issued in the 1970s. It seems curious that foreign borrowers were not charged a premium when floating larger loans, since the larger the

loan, the greater the cost to the issuing house if the entire amount was not successfully placed and had to be absorbed by the sponsoring bankers, to be resold later at a loss. One possibility is that the bankers' commission rather than the price to the public responded to the size of the loan. Typically, foreign floatations in the United States in the 1920s were sponsored by a money center bank or issue house responsible for origination. Often shares of the issue were then sold to a syndicate of underwriting banks which shared responsibility for advertising, marketing and ultimately absorbing any residual amount of the bond issue which the public proved unwilling to purchase.³⁶ Hence the bankers' commission represented compensation for normal costs of marketing and advertising, compensation for underwriting risk, and possibly economic profit due to the relatively small number of issue houses active in the market.

Lewis (1938) provides information not only on the yield received by the public (the variable utilized in the regression analysis reported above) but also on that paid by the borrower; the difference measures the bankers' commission. That commission averaged 30 basis points on foreign bonds issued in the U.S. in the 1920s and could reach substantial levels; on Poland's 1925 national loan, for example, on which the price to the bankers was 86.3 and the price to the public 95.5, the commission amounted to nearly a full percentage point on a loan bearing a nominal interest rate of eight per cent.³⁷

The determinants of the bankers' commission are analyzed in Table 7 using the same variables utilized to analyze the return required by the public, except that loan value is not entered as a ratio to exports. Comparing Tables 6 and 7 reveals that commissions moved very differently over time than rates

Table 7

Determinants of Bankers Commission: Pooled Data, 1920-29

(dependent variable is difference between
interest rate to bankers and interest rate to public)

Variable	(1)	(2)
Constant	0.38 (5.40)	0.36 (5.09)
Value	-0.01 (2.22)	-0.01 (1.63)
National	-0.08 (2.32)	-0.08 (2.00)
Municipal	-0.06 (1.42)	-0.05 (1.09)
Short Term	-0.26 (8.02)	-0.25 (7.41)
Trade Surplus	-0.26 (2.31)	-0.27 (2.23)
Budget Surplus	0.21 (1.72)	0.12 (1.22)
1920	0.24 (2.31)	--
1921	0.21 (2.30)	--
1922	0.15 (1.85)	--
1923	0.10 (1.04)	--
1924	0.20 (2.39)	--
1925	0.19 (2.25)	--
1926	0.01 (0.23)	--

Table 7, Continued

Variable	(1)	(2)
1927	-0.03 (0.96)	--
1928	-0.02 (0.37)	--
Austria	0.22 (1.31)	0.27 (1.46)
Belgium	-0.05 (0.53)	-0.04 (0.41)
Bulgaria	0.20 (2.33)	0.19 (2.24)
Czechoslovakia	0.32 (2.62)	0.45 (3.96)
Denmark	-0.22 (2.52)	-0.19 (2.41)
Finland	-0.02 (0.28)	0.06 (2.04)
France	0.07 (0.80)	0.17 (2.04)
Germany	0.03 (0.38)	0.03 (0.38)
Greece	-0.13 (0.95)	-0.06 (0.52)
Hungary	0.42 (3.51)	0.45 (3.38)
Ireland	0.09 (1.33)	0.04 (0.86)
Italy	-0.07 (0.59)	-0.04 (0.36)
Netherlands	-0.23 (1.89)	-0.05 (0.50)
Norway	-0.17 (1.62)	-0.11 (1.07)

Table 7, Continued

Variable	(1)	(2)
Poland	0.12 (0.68)	0.15 (0.88)
Rumania	0.29 (3.77)	0.30 (3.81)
Sweden	-0.16 (2.40)	-0.18 (2.52)
Switzerland	-0.06 (0.46)	0.06 (0.59)
Yugoslavia	0.08 (0.79)	0.10 (0.97)
Canada	-0.11 (1.94)	-0.06 (1.10)
Argentina	0.04 (0.67)	0.02 (0.39)
Bolivia	0.29 (5.01)	0.25 (4.72)
Chile	0.28 (3.28)	0.26 (3.65)
Colombia	0.21 (2.06)	0.23 (2.06)
Peru	0.41 (7.14)	0.38 (7.82)
Costa Rica	0.18 (0.93)	0.20 (0.99)
Cuba	-0.08 (1.54)	-0.09 (1.88)
Dominican Republic	-0.04 (0.66)	-0.06 (0.86)
Haiti	0.24 (0.74)	0.40 (1.36)
Panama	-0.25 (1.69)	-0.27 (1.74)

Table 7, Continued

Variable	(1)	(2)
Australia	-0.04 (0.39)	-0.07 (0.81)
Japan	0.03 (0.29)	0.08 (0.86)
Brazil	0.05 (0.59)	0.04 (0.48)
Number of Observations	221	221
R ²	.58	.52

Notes: Ordinary least squares regressions with White-corrected t-statistics in parentheses. The omitted alternatives are 1929, Venezuela and corporations.

Source: See text.

to the public. Commissions rose gradually from 1920 through 1925 and fell back in 1926-27, before recovering in 1928-29. Mintz (ch. 4) notes that a number of new banking houses entered the foreign lending business after 1924, which should have driven the commission down. Similarly, a number of houses withdrew from the market starting in 1928, permitting the commission to recover.

The commission on short-term loans was 25 basis points lower than that on long-term issues, presumably reflecting the smaller loss in the event that the issuing house was forced to absorb any portion not taken up by the market. This is consistent with Kuzcynski's (1932) findings based on a sample of German bonds. Commissions on sovereign and municipal loans were slightly lower than on otherwise comparable loans to corporations. There is a negative association between the size of the loan and the bankers' commission, indicating that economies of scale associated with marketing large loans may have offset the extra risk to the issuing bankers.³⁸ In any case, there is no evidence in either Tables 6 or 7 that price was used to deter borrowers from floating larger loans.

The coefficients on the trade and budget-balance variables have the same signs as in the regressions explaining the spread, but in the commission regressions the trade-balance variable is significantly less than zero at standard confidence levels. There are at least three plausible interpretations of this difference between Tables 6 and 7. My preferred interpretation is that specialists had more knowledge of bond market risks, recognized the danger that it might be difficult to market the loans of countries running trade deficits, and demanded compensation. Another

possibility is that the bankers were less able than bondholders to diversify away the risks associated with a specific issue. Given the practice of forming syndicates to underwrite loans it would appear that considerable diversification was possible, however. Finally, it could be that simultaneity tending to bias the trade-balance coefficient upward (since countries charged low commissions could borrow more and hence were permitted to run large deficits) is less of a problem in Table 7 than in Table 6 (where a more important source of simultaneity would arise from the ability of countries charged low interest rates to borrow more and hence to run deficits).

In sum, this analysis provides some evidence that lenders discriminated among potential borrowers on the basis of reputation and political factors conveying information about the probability of default, but little evidence that they were responsive to current economic conditions in the indebted countries. Did they discriminate adequately? One way to approach this question is to compare ex ante and ex post returns. A simple model can be used as the basis for this comparison. The expected rate of return on risky loans i_r should exceed the risk free rate i_f by a risk premium:

$$(3) \quad i_r = i_f + \delta\sigma$$

where σ is default risk so $\delta\sigma$ is the premium on risky loans. Ex ante (of default) the return on risky loans exceeds that required:

$$(4) \quad i_{\text{ex ante}} = i_r + \beta\sigma$$

where $i_{\text{ex ante}}$ is the ex ante rate of return. The ex post return $i_{\text{ex post}}$ differs from that required by investors by their expectational error ϵ .

$$(5) \quad i_{\text{ex post}} = i_r + \epsilon$$

Substituting and solving for the ex ante return gives:

$$(6) \quad i_{\text{ex ante}} = -\frac{\beta}{\delta}i_f + (1+\frac{\beta}{\delta})i_{\text{ex post}} - (1+\frac{\beta}{\delta})\epsilon$$

If investors' expectational errors have mean zero, in a regression of ex ante on ex post returns the constant term $(-\frac{\beta}{\delta}i_f)$ should be negative and the coefficient on $i_{\text{ex post}}$ should be not less than unity. Only if investors uniformly overestimate the return on foreign lending ($\epsilon < 0$ for all loans) can the constant term be positive.

Using the ex ante and ex post rates of return calculated by Eichengreen and Portes (1986) for a sample of 50 dollar bonds (national, provincial, municipal and corporate) issued in the U.S. between 1924 and 1930, equation (6) can be estimated, yielding:

$$(7) \quad i_{\text{ex ante}} = 6.95 - 0.016 i_{\text{ex post}}$$

(45.06) (0.93)

N=50 R²=0.018

with t-statistics in parentheses. The constant term is positive, indicating plausibly that the extent and cost of default in the early 1930s were not fully anticipated by investors (ϵ significantly less than zero on average). But this tells us little about market efficiency, since there is no reason to suppose that an efficient market could have anticipated a single large negative value of ϵ on the order of that which resulted from the macroeconomic collapse of the 1930s. More tellingly, the coefficient on $i_{\text{ex post}}$ is significantly less than unity, which is inconsistent with the joint hypothesis of rational expectations and market efficiency. What kind of systematic

expectational errors does this imply? Instead of (6), posit investor errors of the form:

$$(5') \quad i_{\text{ex post}} = i_r + \epsilon - \alpha\sigma$$

which can be interpreted with $\alpha > 0$ as meaning that investors systematically underestimate the cost of default on those bonds most at risk. Then it is possible for the coefficient on $i_{\text{ex post}}$ to be less than unity and, if $\alpha > \delta$, for that coefficient to be negative as in (7).

Thus, these results suggest that investors incompletely incorporated differential default risk into the spreads they demanded of foreign borrowers. This is a bit surprising in light of the observed tendency (Table 6) of bond-market participants to demand low risk premia of many borrowers which did not default (Scandinavian and Western European nations, members of the British Commonwealth, dependent Central American republics) and high risk premia many borrowers which did default (Eastern European nations, other small Latin American nations), since both tendencies should have given rise to a negative correlation between ex ante and ex post returns. But despite demanding risk premia in the appropriate instances, it nonetheless appears that they received inadequate compensation. This is particularly evident in the comparison between loans to Western European nations which performed well ex post and loans to Germany which performed disastrously and between loans to Argentina and Brazil.

If default risk was imperfectly perceived at time of issue, did bondholders recognize and act upon it subsequently? If risk neutral investors are faced with the choice between two assets, only one of which is subject to

default risk, the return on the risk-free asset should be a weighted average of the return on the other asset in instances in which default does and does not take place, where the perceived probability of default is the weight. Using α to denote the share of interest and principle lost in the event of default:

$$(2) \quad (1+i_r)*(1-P) + (1-\alpha)(1+i_r)*P = 1+i_f$$

where P is the probability of default, and i_r and i_f are the risky and risk-free rates of return respectively. The expected capital loss αP (default probability times per cent capital loss given default) can be derived from the spread.³⁹

$$(3) \quad \alpha P = [(i_r - i_f)/(1+i_r)]$$

Moody's Aaa bond rate and the yield to maturity on the sample of 50 dollar bonds, each at the end of the calendar year, are used as measures of the riskless and risk-free rate. Several expected losses from the sample of 50 dollar bonds described above are depicted in Figures 2-7. Figures 2 and 3 for Colombia and Brazil show that through 1929 the market's expectation of capital loss was low (4 per cent or less). Thereafter, the expected loss due to default began to rise. Since the first defaults occurred in 1931, while the spreads on Colombian and Brazilian bonds rose in 1930, there is some indication that the danger of default was anticipated by market participants. Was this a perceived increase in the probability of default by those countries which ultimately suspended debt service, or did market participants revise their expectations for all Latin American bonds? Figure 4 suggests the

Figure 2

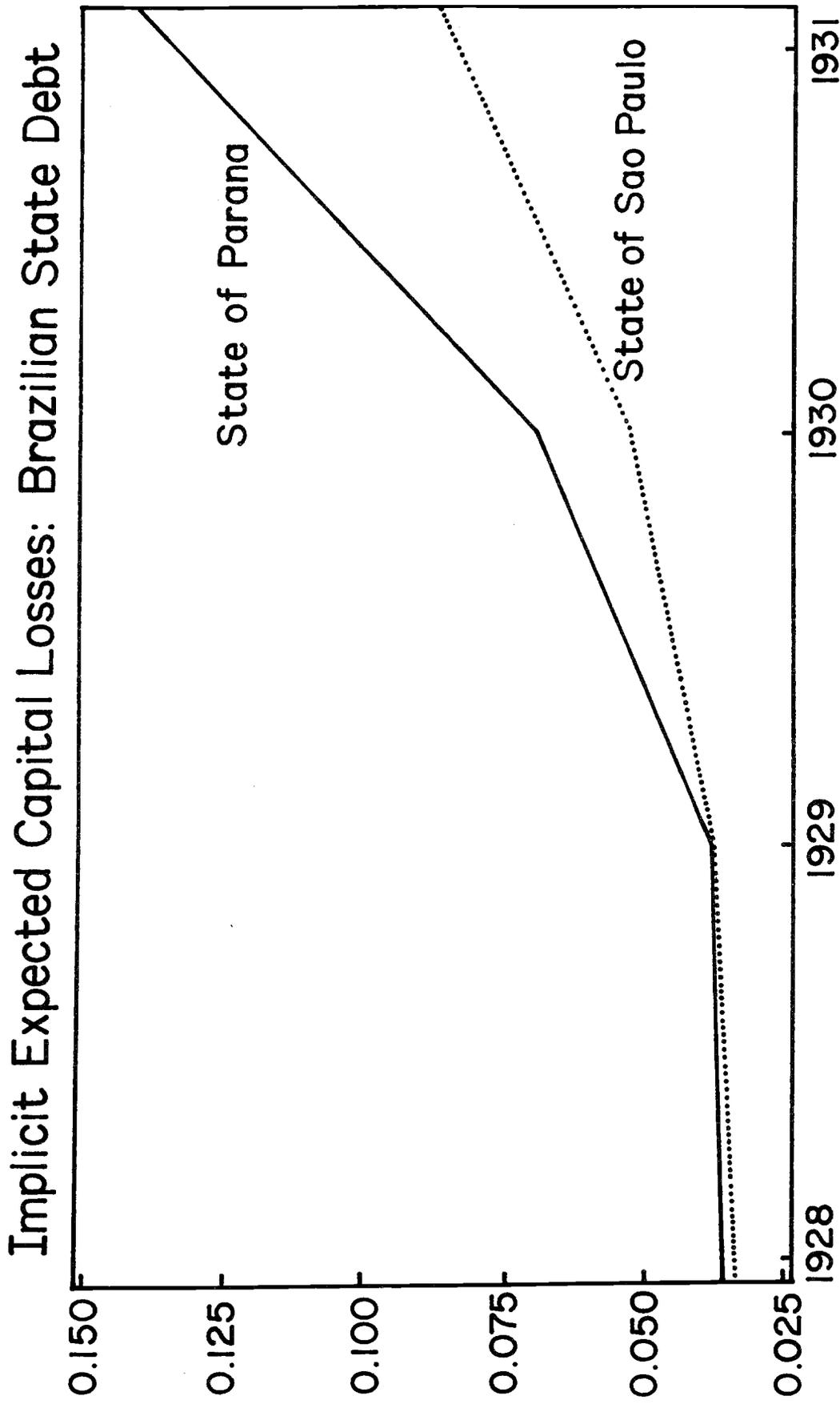


Figure 3

Implicit Expected Capital Losses: Colombian Bonds

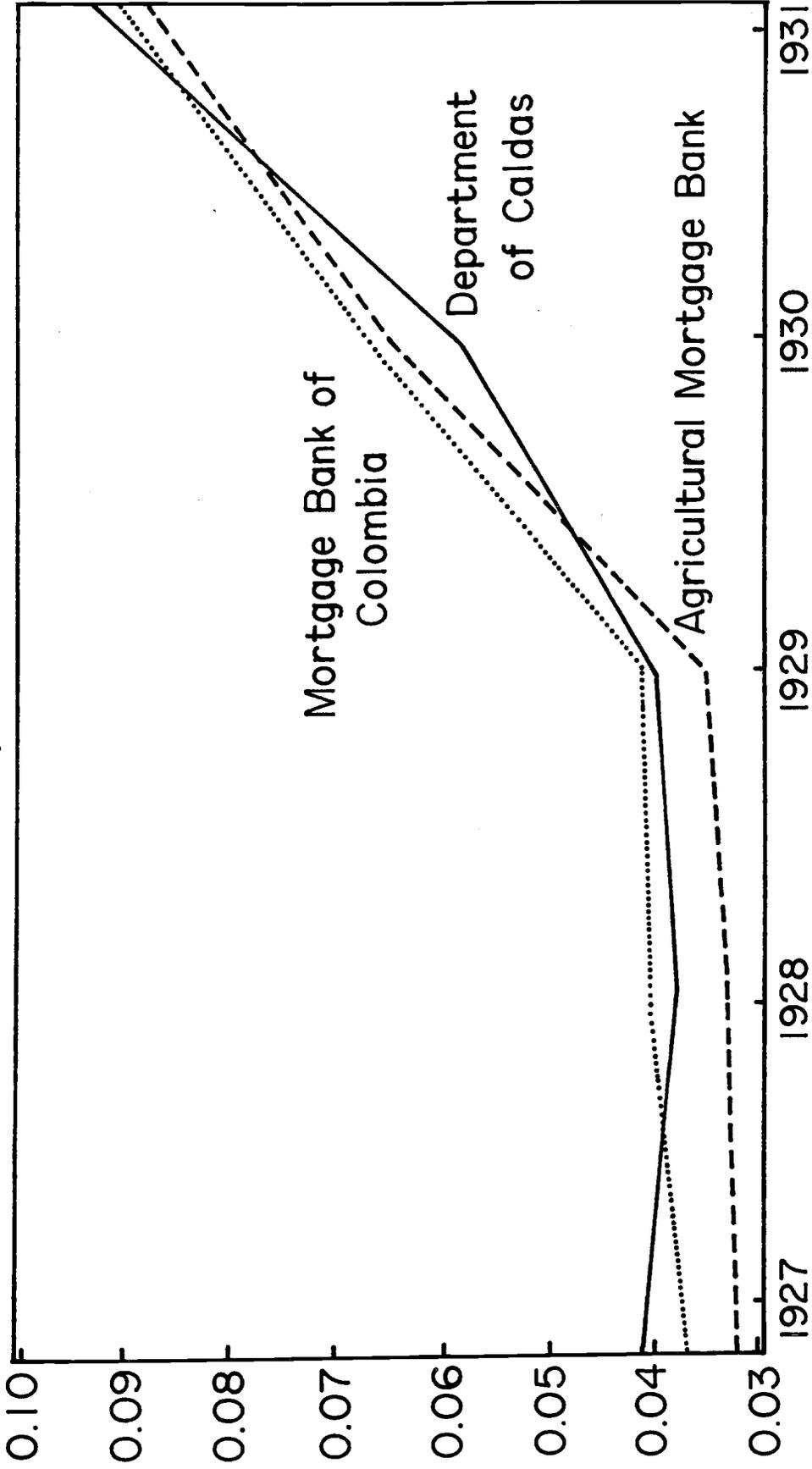


Figure 4

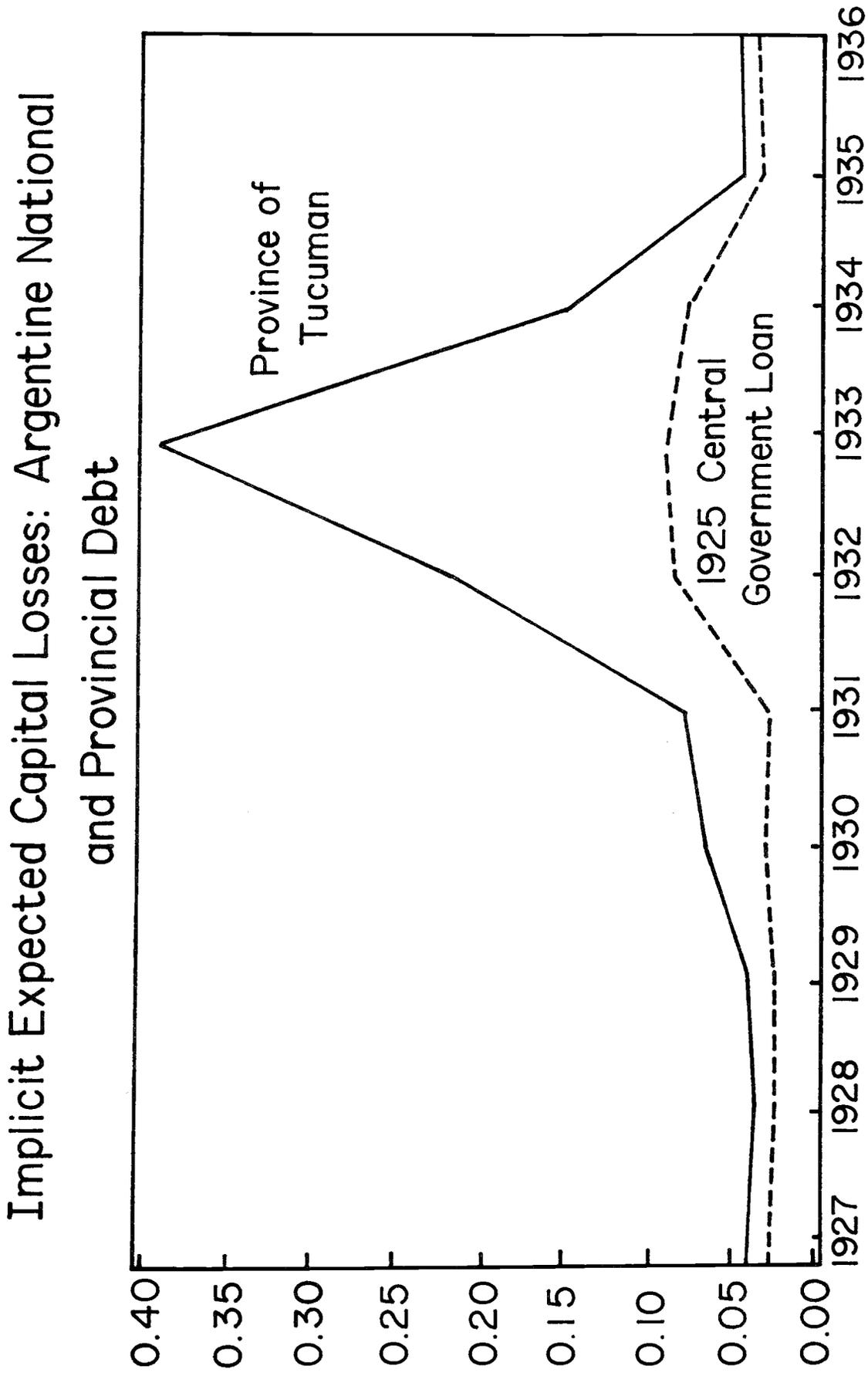


Figure 5

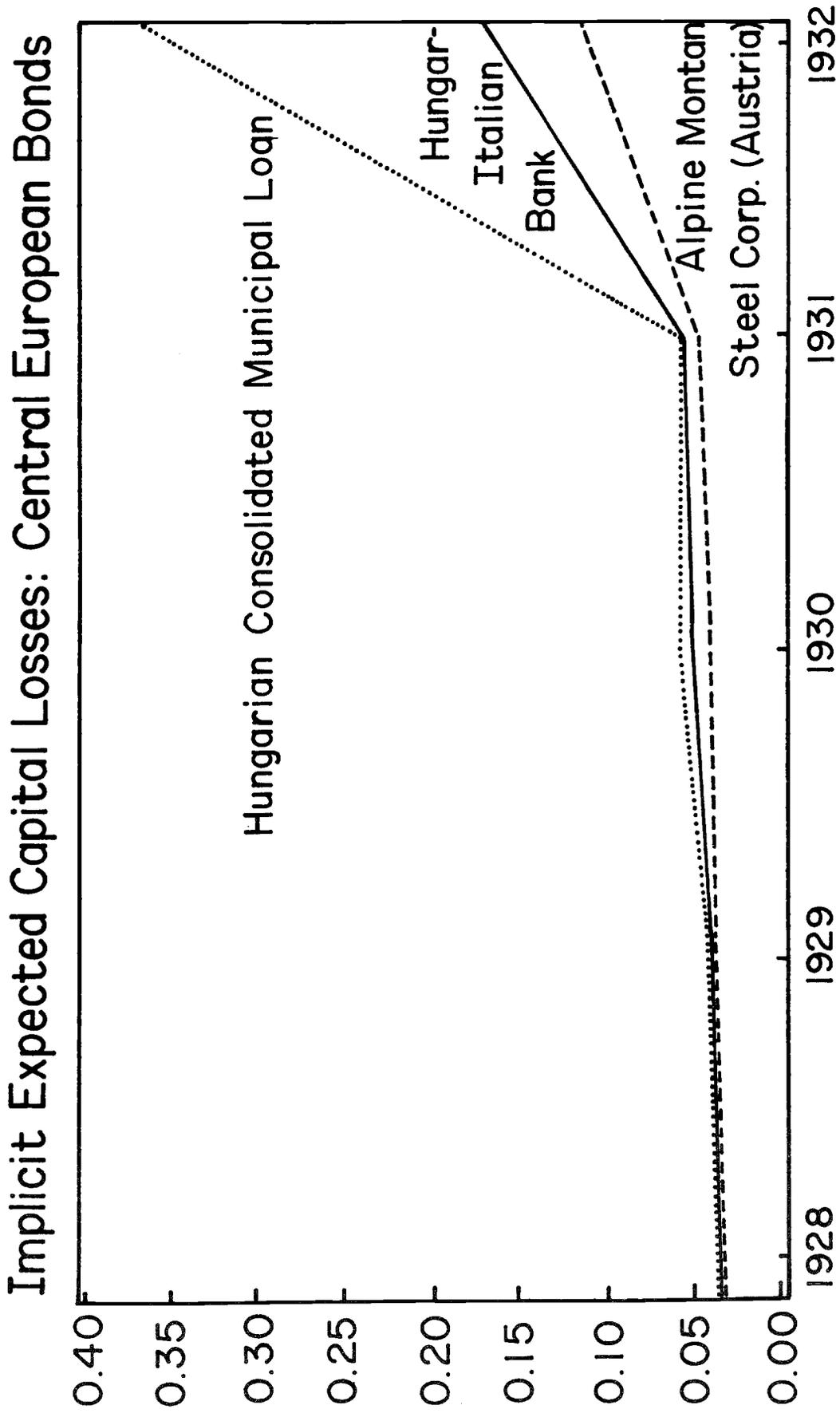


Figure 6

Implicit Expected Capital Losses: German Bonds

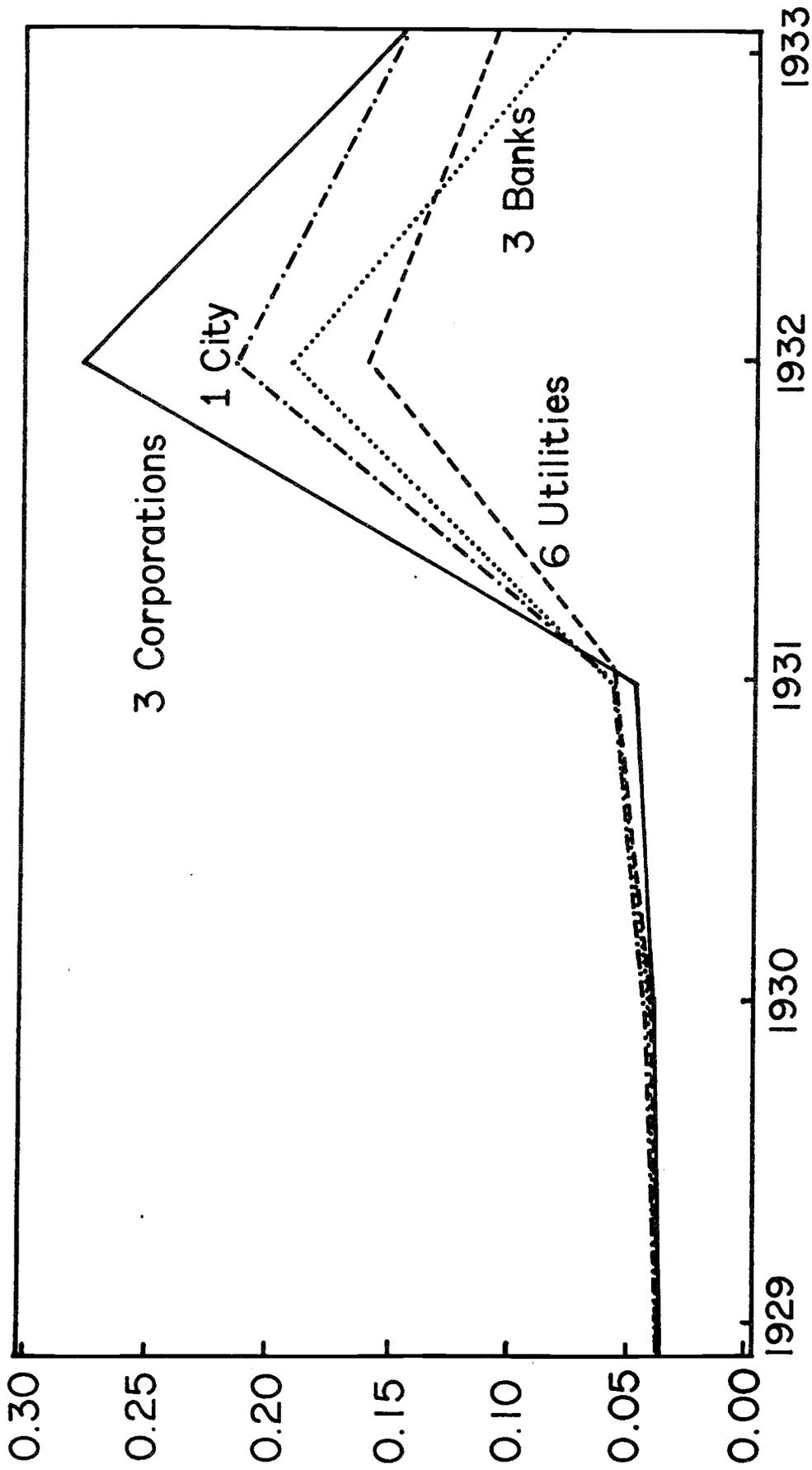
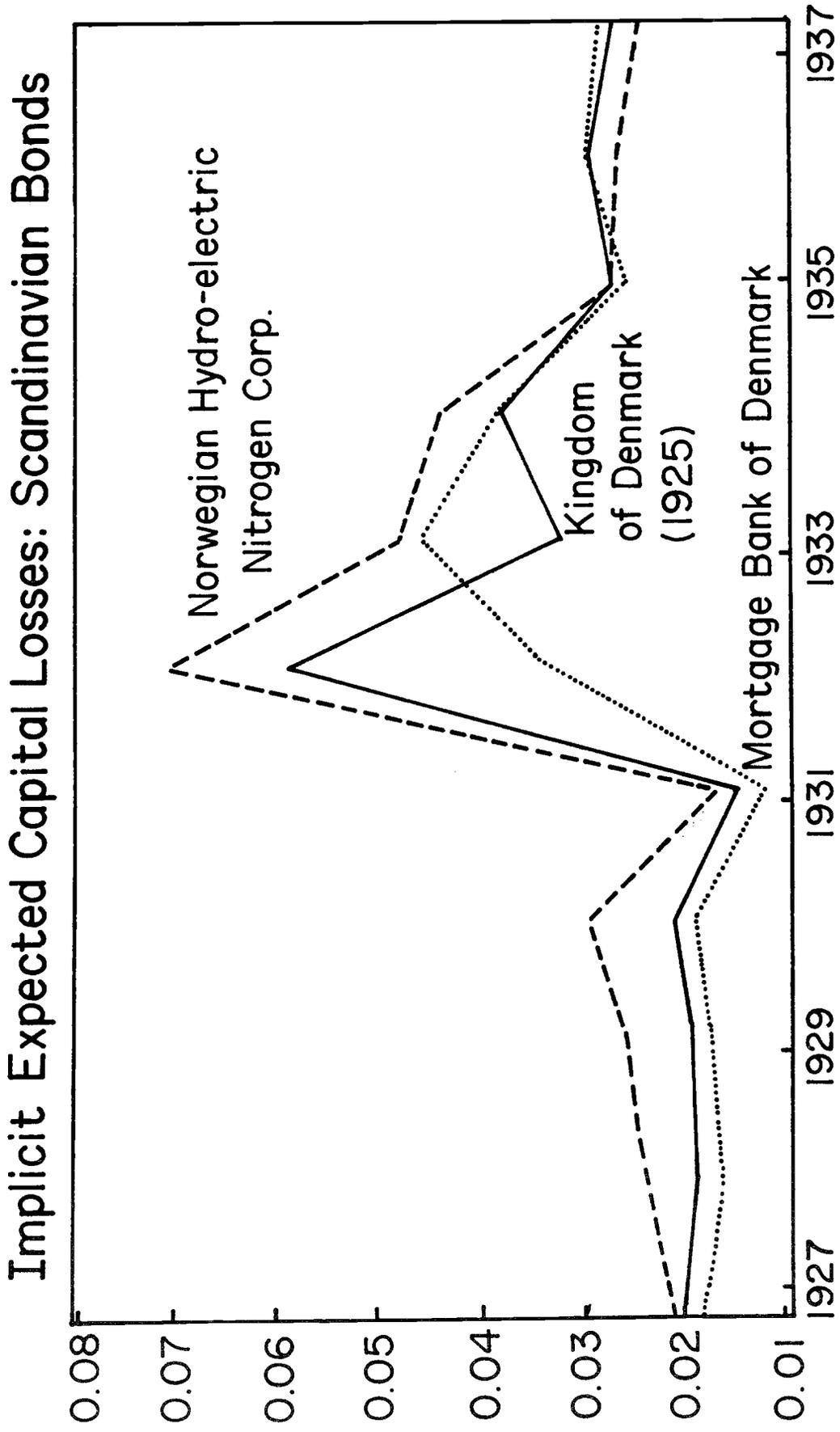


Figure 7



latter, although the timing and rate of growth of the expected loss differed across issues. Argentine central and provincial government debt fell to discounts even in instances where no default ultimately occurred. The expected capital loss on the 1925 Argentine loan had risen by 1932 to the levels achieved by Brazilian and Colombian bonds in 1931. But Argentina's expected loss rises later and declines once it is clear that the national government intends to maintain service on the debt. The 1927 Province of Tucuman issue behaves very differently: the expected loss begins to rise as early as 1930 and reaches high levels in 1932-33 as default takes place on other state and municipal Argentine loans. Once it becomes clear that debt service will be maintained, spreads return to their initial levels.

Figures 5 through 7 provide information on the pricing of European bonds. They suggest that the externalities associated with the initial Latin American defaults were limited largely to Latin America; significant discounts on the German, Austrian and Hungarian bonds depicted in Figures 5-6 do not appear until 1932, despite the spread of Latin American defaults from early 1931. It is remarkable that more serious doubts about Central European bonds did not materialize as early as 1930, when the Young Plan rescheduling of reparations was needed to prevent Germany from falling into arrears. Even at this late date National City Company was still suggesting that "It is reasonable to believe that the new loan...marks the beginning of a widening demand for German bonds, both in this country and abroad. And the present, therefore, would seem to be an opportune time for their purchase."⁴⁰

Figure 7 depicts the behavior of spreads on three Scandinavian loans serviced promptly throughout. Before 1932, spreads on these loans remain

exceptionally low. They then rise in 1932 as default spreads to Eastern Europe, although to nowhere near the levels of the German, Austrian and Hungarian bonds in Figures 5-6. As in Latin America, there is evidence that the German, Austrian and Hungarian defaults had contagion effects on the perceived credit-worthiness of other European borrowers.

Does this evidence suggest that default carried negative externalities by creating doubt about the credit-worthiness of even those nations which continuously maintained service on their obligations? In the 1930s, it appears that such externalities existed but were confined mainly to other countries in the same region. The first Latin American defaults did not have a discernible impact on the bonds of countries in other parts of the world. But when these effects occurred, they were persistent; it took four years, for example, for the initial impact on Argentine credit-worthiness to dissipate.

4. Default and Market Access

"The great depression that began in 1929 brought our first great venture in foreign lending to a sick end. There had been a thrill about this swift financial ascension over the oceans. It was gone, and seemingly for all time...A general sigh of resolve was to be heard over the United States: never again should we lend or invest our money in foreign lands."

Feis (1950, p.1)

The debt defaults of the 1930s were sobering for American investors. The performance of U.S. portfolio investments abroad, notably debts of foreign governments, was particularly disheartening. Approximately two thirds of foreign securities held by American investors fell into default over the course of the Depression decade. Contemporaries believed that the experience of the 'thirties had a lingering impact on the attitudes of investors. The

United Nations explained the postwar decline in private loans to governments on the basis of "losses resulting from default and only partly mitigated by subsequent agreements with the borrowers that bondholders have accepted in order to avoid more severe loss..."⁴¹ When transmitting to the Economic and Social Council of the United Nations in 1949 a study by the National Association of Manufacturers of the potential for U.S. capital exports following the conclusion of the Marshall Plan, Curtis E. Calder, Chairman of the Association's International Relations Committee, expressed this view as follows:

"We feel further that the relative undesirability of inter-governmental loans has been impressed equally upon grantors and recipients. After the experience of the 'thirties and the serious balance of payment difficulties now plaguing most of the world, the superiority of equity over loan financing has, we believe, a universal appeal...We strongly recommend that no reliance be placed upon inter-governmental loans outside of the category of those qualifying within the limits of the funds of Export-Import Bank and the Bank for Reconstruction and Development."⁴²

Despite a proliferation of similar statements, it is not obvious that the experience of the 'thirties influenced investors' actions as well as their statements, particularly since a variety of other postwar disruptions might conceivably have exercised an even more powerful influence over the volume and pattern of foreign lending. Moreover, any new hesitancy to extend loans to foreign governments did not have a sufficient half life to prevent the astounding growth of sovereign debt in the 1970s. Still, it seems plausible that repercussions of the debt defaults of the 1930s were felt by the capital markets in the 1940s and 1950s. One approach to this issue is to compare U.S. foreign lending in the ten years immediately succeeding World Wars I and II.

Clearly, the second half of the 1940s and first half of the 1950s comprise a very special period in the history of the world economy, following as they do on the heels of a global conflagration. Since the years 1919-28 comprise an equally special period for many of the same reasons, they provide an especially useful basis for comparison. Admittedly, a study of the ten years immediately following World War II is not a complete analysis of the legacy -- if any -- of interwar debt defaults. But if no legacy of default can be discerned in the immediate postwar decade when interwar experience was so immediate and the parallels were so extensive, it seems unlikely that such evidence could be found for subsequent years.

In comparing U.S. foreign lending in the decades immediately following the two world wars, it is useful to distinguish three questions. First, was total U.S. foreign lending depressed in the wake of the debt defaults of the 1930s? Second, was the relative importance of direct and portfolio investment altered by the lingering effects of interwar defaults? Third, compared to countries which continuously serviced their debts, did countries which had defaulted find it more difficult to borrow abroad?

Table 8 summarizes the volume and composition of U.S. foreign lending in the two postwar decades. Lending from 1946 through 1955 is expressed in 1919-28 average prices. A first fact evident from Table 8 is that U.S. capital exports actually were larger in the second postwar decade (more than three times as large at current prices, more than twice as large at constant prices). However, the difference is due almost entirely to unilateral transfers by government, notably the Marshall Plan. (The amount and direction of Marshall Plan aid are summarized in Table 9.) Net of official transfers,

Table 8

U.S. Foreign Lending in the Two Postwar Decades, 1919-28 and 1946-55

(in millions of current dollars for 1919-28
and in 1919-28 average prices for 1946-55)

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	Decade Average
Public, long & short term	2328	175	-30	-31	-91	-28	-27	-30	-46	-49	217
Private											
Direct, long term	94	154	111	153	148	182	268	351	351	558	237
Other, long term	75	400	477	669	235	703	603	470	636	752	502
Short term	na	na	na	na	82	109	46	36	349	231	142
Unilateral transfers											
Private	832	634	450	314	328	339	373	361	355	346	433
Government	212	45	59	38	37	25	30	20	2	19	49
	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>	<u>1950</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	Decade Average
Public, long & short term	2705	3079	690	462	106	96	265	139	-59	197	682
Private											
Direct, long term	206	546	486	468	424	311	537	469	425	523	444
Other, long term	-114	36	47	57	338	268	135	-118	204	153	107
Short term	278	137	78	-133	102	63	59	-107	404	121	97
Unilateral transfers											
Private	603	497	470	377	310	258	279	321	321	290	368
Government	2015	1416	2580	3620	2430	1904	1315	1262	1131	1299	1871

Notes: na denotes not available. Decade average short term capital flow for the 'twenties is for the years 1923-28 only.

Source: U.S. Department of Commerce (1976), pp. 198-201, 866-67.

U.S. foreign lending at constant prices remains almost exactly unchanged between the two postwar decades. At the most aggregated level, then, there is little evidence that the debt defaults of the 1930s had a damping effect on the volume of U.S. lending.

Only at the aggregate level, however, is there little change. Putting aside unilateral transfers, there is a reversal in the relative importance of lending by government and by the private sector, the public sector accounting for just 20 per cent after World War I but for fully 51 per cent after World War II. The real value of private lending at constant prices (long- and short-term combined) fell by nearly one third between the post-World-War-I and post-World-War-II decades. Within private lending, there are equally far reaching changes in composition. While the share of short-term capital in U.S. private lending remains more or less unchanged, the relative importance of direct and portfolio investment is reversed. Where portfolio investment was more than double direct investment in the decade following World War I, it was less than a quarter of direct investment in the decade following World War II. Although there are other reasons why reliance on direct investment might have increased after World War II -- such as the standard presumption that direct investment is relatively advantageous for firms engaged in the manufacture of goods produced with firm-specific technical knowledge, a type of production which tended to grow more important in international transactions as the century progressed -- it seems implausible that these slowly-evolving factors rather than the repercussions of default were mainly responsible for the very dramatic rise in direct investment after 1945. Due to both the fall in the real value of private lending and the declining share

of portfolio investment, the real value of the latter fell most dramatically between decades, by more than 80 per cent. Overall, there was a dramatic decline in the willingness of Americans to accumulate portfolio investments abroad, precisely what one would expect had purchasers been deterred by defaults on foreign bonds.

While the U.S. was far and away the leading capital exporter of the post-World-War-II period, she had not been so dominant after World War I. In the period 1924-27, when U.S. capital exports fluctuated in the range of \$1.2-\$1.6 billion per annum, total capital exports of the industrial countries reached \$2 billion annually and more.⁴³ It is noteworthy, therefore, that private capital exports of other industrial countries fell even more dramatically between the two postwar decades than did the capital exports of the United States. New issues for overseas account floated in London in the period 1947-52 amounted to £45 million per annum, less than 50 per cent of the current-price value of the period 1920-25. Meanwhile, British investors steadily repatriated their foreign funds between 1946 and 1951. The nominal value of the overseas investments of U.K. residents in the form of securities quoted on the London Stock Exchange declined by £432 million.⁴⁴ The outflow of private capital from France over the period 1946-52 is estimated to have approached a total of \$1 billion; in contrast, in the period 1920-26 the total outflow (excluding gold) had been more than \$3½ billion.⁴⁵

Consistent country data on the extent of foreign borrowing after World War II are notoriously difficult to obtain. Fortunately, courtesy of Avramovic's (1958) massive study, reasonably consistent data on stocks of debt at three points in time are available for 36 countries. As summarized in

Table 9

European Recovery Program Direct and Conditional Aid,
by Country: From Inception through June 30, 1951

(millions of dollars)

Country	Total	Grants					Credits
		Total	Direct	Conditional Upon Aid Extended			
				Under intra- European Payments Agreement ¹	Through European Payments Union		
Total	10,260	9,128	7,537	1,355	236	1,132	
Austria	492	492	488	5	--	--	
Belgium-Luxembourg	537	484	8	447	29	52	
British Commonwealth:							
United Kingdom	2,675	2,329	1,799	380	150	346	
Denmark	231	200	191	9	--	31	
France	2,060	1,869	1,807	61	--	191	
Germany	1,174	1,172	953	219	--	2	
Greece	387	386	386	--	--	1	
Iceland	17	13	10	4	--	3	
Ireland	139	11	11	--	--	128	
Italy	1,034	959	873	86	--	74	
Netherlands-Indonesia	893	743	711	32	--	151	
Netherlands	809	659	628	30	--	151	
Indonesia	84	84	83	1	--	--	
Norway	199	164	153	11	--	25	
Portugal	33	8	(*)	8	--	35	
Sweden	103	82	(*)	77	5	20	
Trieste	30	30	30	--	--	--	
Turkey	89	17	(*)	17	--	71	
International Organi- zation: European Payments Union	51	51	--	--	51	--	
Unclassified areas	116	116	116	--	--	--	

*Less than \$500,000.

1. Includes \$3,500,000 extended by Iceland to Germany and \$3,081,000 extended by Italy to Trieste outside of the intra-European payments plan.

Source: U.S. Department of Commerce (1952), p. 60.

Table 9, these include disbursed and undisbursed long-term debt owned or guaranteed by public bodies in debtor countries (central and local governments, public agencies and state-owned enterprises) and exclude grants in aid (notably Marshall Plan aid), loans repayable in local currency, loans with a maturity of less than 12 months, and drawings on the IMF. Debt is valued as on the books of the borrowing countries.

In the raw data, no relationship between default in the 1930s and borrowing after 1945 is apparent. But reputational effects are only a subset of the factors affecting a government's willingness and ability to borrow abroad. The United Nations, when discussing external borrowing in this period, cited country size and the relative importance of imports in domestic consumption as factors positively associated with borrowing.⁴⁶ Standard borrowing models suggest in addition that countries whose exports are most variable will have the greatest tendency to borrow abroad in order to smooth fluctuations in export receipts and domestic purchasing power.⁴⁷ My analysis of the role of these factors and of past debt-servicing records in the extent of borrowing in the post-World-War II decade builds on the data in Table 10. Additional information on external debt was obtained from United Nations (1948) and the annual reports of the Council of Foreign Bondholders and Foreign Bondholders Protective Council, permitting Argentina, Bolivia, Costa Rica, Venezuela, Egypt, Germany and Sweden to be added to the sample. Information on imports, exports and GNP was obtained from International Monetary Fund (1978), supplemented as necessary by United Nations (1958) and Wilkie (1974). These were used to calculate measures of openness (the import/GNP ratio in 1955) and export variability (the variance of exports over

Table 10

External Public Debt Outstanding, 1945-1955

(December 31 of each year in thousands of US \$ equivalent)

	1945	1950	1955	Percentage Increase	
				1945-1955	1950-1955
<u>Grand Total</u>	<u>7,732,240</u>	<u>16,122,635</u>	<u>18,329,325</u>	<u>137.1</u>	<u>13.7</u>
<u>Europe</u>	<u>3,594,809</u>	<u>12,225,248</u>	<u>11,726,205</u>	<u>226.2</u>	<u>-4.1</u>
Austria	60,562	72,635	259,146 ²	327.9	256.8
Belgium	181,047	375,370	446,376	146.6	18.9
Denmark	272,135	389,493	251,984	-7.4	-35.3
Finland	147,998	326,742	292,177	97.4	-10.6
France	1,267,182	2,906,297	2,631,671	107.7	-9.4
Iceland	1,216	8,633	16,965	1,295.1	96.5
Italy	126,116	550,268	681,450	440.3	23.8
Luxemburg	5,310	19,502	17,342	226.6	-11.1
Netherlands	194,612	939,625	531,607	173.2	-43.4
Norway	222,456	286,523	347,476	56.2	21.3
United Kingdom	1,116,175	6,061,234	5,920,196	430.4	-2.3
Yugoslavia	n.a.	288,926 ¹	329,815	n.a.	14.2
<u>Africa</u>	<u>296,052</u>	<u>438,548</u>	<u>1,093,903</u>	<u>269.5</u>	<u>149.4</u>
Belgian Congo	79,206	107,719	316,564 ³	299.7	193.9
Ethiopia	2,786	12,000	32,583	1,069.5	171.5
Federation of Rhodesia	69,157	169,806	368,410	432.7	117.0
Union of South Africa	144,903	149,023	376,346	459.7	152.5

Table 10, Continued

	1945	1950	1955	Percentage Increase	
				1945-1955	1950-1955
Australia	<u>1,760,514</u>	<u>1,288,118</u>	<u>1,400,084</u> ²	-20.5	8.7
<u>Asia</u>	<u>495,764</u>	<u>429,461</u>	<u>1,426,125</u>	<u>187.7</u>	<u>232.1</u>
Ceylon	37,918	26,345	59,470	56.8	125.7
India	47,467	58,998	486,378	924.7	724.4
Japan	402,945	309,121	627,855	55.8	103.1
Pakistan	--	--	181,785	--	--
Thailand	7,434	34,997	70,637	850.2	101.8
<u>Latin America</u>	<u>1,585,102</u>	<u>1,741,260</u>	<u>2,683,008</u>	<u>69.3</u>	<u>54.1</u>
Brazil	432,699	409,389	1,046,414	141.8	155.6
Chile	425,892	355,346	313,543	-26.4	-11.8
Colombia	171,447	157,545	281,079	63.9	78.4
Ecuador	24,222	31,944	59,254	144.6	85.5
El Salvador	13,383	22,367	28,263	111.2	26.4
Guatemala	878	378	21,172	2,311.4	5,501.1
Haiti	15,155	8,296	42,225	178.6	409.0
Honduras	5,430	1,260	4,200	-22.7	233.3
Mexico	200,577	509,099	478,944	138.8	-5.9
Nicaragua	5,776	4,640	22,730	293.5	389.9
Panama	15,641	13,000	20,463	30.8	57.4
Paraguay	15,781	15,287	17,974	13.9	17.6
Peru	104,842	107,176	215,366	105.4	100.9
Uruguay	153,379	105,533	131,381	-14.3	24.5

1. June 30, 1951.

2. June 30, 1955.

3. June 30, 1956.

Source: International Bank for Reconstruction and Development, Economic Staff, Statistics Division; reproduced from Avramovic (1958), p. 163.

the three years 1953-55). Finally, as a measure of the extent of interwar default, the percentage of dollar and sterling external governmental debt (all levels of government plus government-guaranteed loans to enterprise) in default as to interest and/or sinking fund at the end of 1935 was calculated from the reports of the two bondholders' committees. 1935 is chosen as the year in which to measure interwar default since almost all of these defaults occurred between 1931 and 1934.⁴⁸ Admittedly, the share of debt in default is a crude measure of reputation; it might be desirable in future work to include the share of contracted debt service payments actually made, as Jorgensen (1987) or Lindert and Morton (1987), or a measure of the outcome of debtor-creditor negotiations, such as the Foreign Bondholders Protective Committee's endorsement.

The absence of information on one or more of the independent variables forced a number of countries to be dropped, leaving 32, of which 18 are Latin American.⁴⁹ Two types of regressions were run on this cross section. Those in Table 11 analyze the determinants of net foreign borrowing by public authorities -- the change in the external debt between 1945 and 1955. Those in Table 12 follow other recent studies of sovereign debt by taking as the dependent variable not the net flow of resources over the decade but the terminal stock -- the value of the external debt in 1955. An advantage of the stock formulation is that elasticities can be estimated directly by defining the 1955 debt stock in log form (which is not possible for the flow of borrowing since that variable can be negative).

Consider first the value of borrowing. The first equation in Table 11, in which borrowing is regressed on only a constant term and the share of debt

Table 11

Determinants of Foreign Borrowing, 1945-55

(dependent variable is in millions of U.S. dollars)

	(1)	(2)	(3)
Constant	413.89 (1.69)	-1311.93 (3.98)	-1169.87 (3.88)
Share of Debt in Default, 1935	-171.39 (0.47)	644.37 (3.14)	557.65 (2.91)
GNP	--	0.88 (7.00)	0.07 (10.34)
Import/GNP Ratio	--	3955.93 (3.29)	3497.55 (3.10)
Debt in 1945	--	-24.15 (1.25)	-0.32 (1.41)
Export Variability	--	-0.01 (0.60)	--
Number of Observations	32	32	32
R ²	0.01	0.82	0.82
F	0.22	23.35	30.38

Notes: t-statistics in parentheses.

Source: See text.

in default in 1935, suggests at best a weak negative relationship between interwar default and external borrowing in the first post-World-War-II decade. The point estimate can be read to suggest that countries which defaulted (share in default = 1) borrowed \$171.4 million less than countries that serviced their entire debt (share in default = 0). Since the mean of the dependent variable is \$334 million, this point estimate is substantial. However, the next two equations indicate that this apparent difference among countries is due entirely to other respects in which defaulting and nondefaulting countries differed. Larger, more open countries borrowed more, while countries more heavily indebted at the beginning of the postwar decade borrowed less. These results are consistent with the observations of United Nations (1965) and the predictions of optimal foreign borrowing models. The only hypothesis not verified is the posited association between export variability and the volume of borrowing, which is nonexistent in this period. This variable is dropped, therefore, from the third equation. But the most striking finding is that inclusion of these additional determinants of borrowing reverses the association between interwar default and postwar borrowing, yielding a positive correlation between default and subsequent borrowing that is statistically significant at standard confidence levels. There is no evidence that countries which defaulted in the interwar period found it more difficult to borrow in the immediate post-World-War-II years.

An obvious suspicion is that the inclusion of 1945 debt is mainly responsible for reversing the coefficient on interwar default. Default in the 1930s, the argument would run, permitted countries to buy back their external liabilities at deep discounts and, by reducing their debt burdens, facilitated

subsequent borrowing. This does not seem to have been the case, however, since dropping 1945 debt alters neither the sign nor the significance of the coefficient on 1935 default.

The results in Table 12, concerned with variations in the terminal debt stock, are consistent with those just discussed. Again, the value of the external debt in 1955 is positively related to GNP and openness, insignificantly related to export variability, and related to the 1945 debt stock with an elasticity of less than unity (suggesting that countries heavily indebted at the start of the period borrowed less over the interim). Most importantly, interwar default is either positively associated or unrelated to postwar indebtedness. Again, there is no evidence that countries which defaulted in the 1930s found it more difficult to borrow in the 1940s and 1950s.

While the Abramovic data have the virtue of consistency, they have the problem of combining all types of external debt accumulated by governments, whether extended by international agencies, creditor country governments or private investors. There is no reason to expect public lenders, in particular the U.S. government at the beginning of the Cold War, to have responded to market incentives and reputational factors in the same manner as private investors. It would be desirable to analyze private portfolio lending (to both the public and private sectors) separately from lending by public agencies before concluding that no trace of interwar defaults can be discerned in the geographical distribution of postwar lending. Unfortunately, post-WWII balance-of-payments records of bond floatations and repurchases and of loans from private foreign banks are of dubious quality. Typically, these are

Table 12

Determinants of the Stock of Debt, 1955

(dependent variable is in millions of U.S. dollars)

	(1) Log of Debt	(2) Level of Debt	(3) Log of Debt	(4) Level of Debt
Constant	-2.15 (1.25)	-1254.12 (3.78)	-2.65 (1.78)	-1169.87 (3.88)
Share of Debt in Default, 1935	0.65 (1.27)	613.40 (2.89)	0.75 (1.56)	557.65 (2.90)
Log GNP	0.75 (4.21)	--	0.81 (5.50)	--
GNP	--	0.08 (7.04)		0.07 (10.34)
Import/GNP Ratio	0.85 (0.31)	3723.12 (3.12)	1.01 (0.38)	3497.55 (3.10)
Log Debt in 1945	0.16 (3.52)	--	0.17 (3.56)	--
Debt in 1945		0.67 (2.91)		0.68 (2.99)
Export Variability	0.01 (0.62)	-0.01 (0.64)	--	--
Number of Observations	32	32	32	32
R ²	0.74	0.88	0.74	0.88
F	15.16	37.39	19.29	47.67

Notes: t-statistics in parentheses.

Source: See text.

derived as a residual from the balance-of-payments accounts by deducting from total long-term capital inflows the sum of loans granted by international agencies and foreign governments. Total long-term capital flows for this period are themselves exceptionally difficult to measure accurately because of the extent of security repurchases; while relatively good records are available of new floatations and bank loans, little reliable information is published on transactions in outstanding public or private securities held by foreigners.

Nonwithstanding these difficulties, the United Nations (1965) has published estimates of private portfolio lending to the Latin American countries over the first postwar decade. These figures are shown in Table 13. Table 14 combines them with the GNP, trade and default indicators described above to analyze the association of interwar default with postwar portfolio capital inflows for the 18 Latin American countries included in the preceding analysis of the Abramovic data. The bivariate relationship between postwar portfolio borrowing and interwar default, shown in the first column, is positive but statistically insignificant. Once other correlates of the demand for debt are added to the equation, the coefficient on interwar debt turns negative, as the reputational hypothesis would predict, although the point estimate of the coefficient remains smaller than its standard error. While the sign of the coefficient on interwar default is somewhat sensitive to the combination of other variables included in the equation (only when both GNP and the curiously signed measure of export variability are included is the coefficient on interwar default consistently negative), its low level of significance is not. Once again, it is impossible to reject the null

Table 13

Private Portfolio Capital Inflows
to Latin American Countries, 1946-55

(in millions of U.S. dollars)

Country	1946-50	1951-55
Argentina	-	22.5
Bolivia	-	-
Brazil	-20.0	151.0
Chile	-0.5	-1.8
Colombia	8.7	82.9
Costa Rica	-0.4	6.7
Cuba	-	38.3
Dominican Republic	-3.0	1.1
Ecuador	-	3.6
El Salvador	0.1	0.4
Guatemala	-	2.9
Haiti	-	-
Honduras	-	-
Mexico	-7.8	-24.7
Nicaragua	-	3.4
Panama	-3.3	-0.1
Paraguay	-3.2	-2.2
Peru	-0.4	-0.8
Uruguay	-	-
Venezuela	-	-3.7

Source: United Nations (1965), Annex Table D.

Table 14

Determinants of Private Portfolio Capital
Inflow to Latin American Countries, 1946-55

(dependent variable is in millions of U.S. dollars)

	(1)	(2)	(3)
Constant	-3.59 (0.18)	-3.14 (0.12)	7.11 (0.18)
Share of Debt in Default, 1935	17.75 (0.76)	-14.31 (-0.81)	-17.63 (0.86)
GNP	--	0.01 (4.64)	0.01 (4.31)
Import/GNP Ratio	--	46.00 (0.38)	5.63 (0.03)
Debt in 1945	--	--	-0.013 (0.35)
Export Variability	--	-0.005 (3.22)	-0.005 (3.13)
Number of Observations	18	18	18
R ²	.04	.68	.69
F	0.58	7.01	7.15

Notes: t-statistics in parentheses.

Source: See text.

hypothesis that variations across countries in the severity of interwar default had essentially no impact on the relative ease with which countries secured private portfolio capital inflows during the postwar years.

The two central findings of this section -- a much reduced volume of private portfolio lending and no greater difficulty of borrowing for countries that had defaulted previously -- are not difficult to reconcile with one another. Recall the evidence from the previous section on the impact of one country's default on the market's expectation of capital losses on neighboring countries' bonds. That evidence suggests that some effects of interwar defaults were external to the initiating country, a conclusion consistent with the evidence from this section suggesting that the main legacy of interwar debt defaults was to depress the volume of private portfolio lending generally, not to divert it to faithful servicers from countries which lapsed into default.

5. Conclusion

What picture of the capital market emerges from this study of the United States' first 35 years as a creditor nation? It is patently impossible to characterize the market as either perfectly rational or wholly irrational. Advocates of a return to the bond market as a panacea for recent difficulties with sovereign lending should take note of these conclusions. While switching back from bank loans to the bond market may divert some of the risk shouldered by creditor-country banking systems, bond market participants have shown no greater facility than bank loan officers historically in distinguishing good credit risks from bad. Nor were bond markets any more successful in smoothing the flow of capital to developing-country debtors.

What picture of the legacy of default for the subsequent behavior of the markets emerges from this study of the last complete debt cycle? Recent theoretical studies of sovereign lending in the presence of potential default have posited the existence of a default penalty \bar{P} , usually interpreted as the costs of inferior access to international capital markets in the wake of default. The finding that, compared to countries which maintained debt service throughout, countries which lapsed into default in the 1930s were no less able to borrow in the 1940s and 1950s is difficult to reconcile with this simple view. If there were costs of default, they did not take the form of differential credit-market access in the first postwar decade. But this does not imply that default was costless. Evidence from bond prices in the 1930s and from the volume and composition of lending in the 1940s-1950s suggests that at least some of the costs of default spilled over among debtor countries. These costs took the form of reduced access to private portfolio capital flows for defaulting and nondefaulting countries alike.

To say that default had costs is not to say that it was necessarily welfare reducing. It may also have had benefits in the form of the spur to growth and adjustment provided by a lightened debt burden. Comparisons of economic growth and structural change in defaulting and nondefaulting countries will be needed before welfare conclusions can be drawn. But the fact that a substantial share of the costs were external to the individual country indicates that there may be gains to debtors from coordinating their decisions, whether or not that decision is to maintain service on their external debts.

Footnotes

1. Computed from Lewis (1938), p. 445.
2. If war debts are added to U.S. foreign assets, the U.S. net creditor position in 1919 exceeds \$12 billion.
3. For figures, see Eichengreen (1986).
4. Fraga (1986), Section II. Some have suggested that the German authorities consciously wished to build up commercial liabilities as a way of impressing on American creditors the impossibility of making good both commercial and reparations obligations. For a discussion, see McNeil (1986).
5. See Lipsey (1986).
6. Foreign bond yields are annual averages, from Lary (1944), p. 204. Moody's Baa yields are from the Survey of Current Business (November 1937), p. 19. The value of total publicly offered foreign securities purchased in the United States (including refunding to Americans is from Dickens (1932), p. 8. The picture for the other major creditor country, Britain, looks broadly similar although the fluctuations in lending are considerably damped; see Eichengreen and Portes (1986), Sec. 2.
7. It is conceivable, of course, that the lending series is traced out not by movements of the supply curve along a stable demand curve but by shifts in borrowers' demand (down in 1923, up starting in 1924, and down after 1928). I argue, however, that demand remained relatively stable at high levels throughout the decade and that changes in quantities reflected mainly shifts in supply.
8. Lewis's (1938, p. 370) estimates of yields to maturity are 5.3 per cent

for 1915-April 1917 and 6.7 per cent for 1922-24. The 1920 Belgian Loan illustrates the difficulties encountered by borrowers at the beginning of the decade. It has been argued that Belgium managed to obtain these funds only because U.S. commercial banks had a special stake in the country. The banks had previously extended Belgium short-term credits in the amount of \$50 million to purchase wheat and other essential commodities. Due to a deterioration in the country's external position, it quickly became evident that the government was in no position to repay. The authorities therefore approached the bankers, who agreed to float \$50 million worth of 25 year bonds. The terms were highly favorable to investors: the bonds bore a nominal interest rate of 7.5 per cent and were callable only at 115. Yet "the subscription books were kept open for three days, a very unusual procedure; every resource the bankers could command was used to induce subscription..." Only after having taken these exceptional steps was the loan successfully floated. See Swan (1928), from where the above quote is drawn.

9. As Lawrence Speaker wrote in 1924 (p. 93), "From the political standpoint, Europe today presents a very uncertain outlook. Since most of Eastern Europe is in the hands of the radical socialists whose views on capital are quite incompatible with those held here, since Central Europe is threatened with political as well as economic breakdown, and the nations of Western Europe are torn apart by contending political influences, a policy of extreme caution in making investments in Europe seems highly advisable. It is possible that some of these countries, in their dire necessity, may be drawn to the confiscation of private property as well as wholesale repudiation of their internal debts....Such tendencies on the part of governments are not at

all conducive to the stability and soundness of investments."

10. The Economist (July 5, 1924) described the return as follows, "The yield, allowing for redemption in twenty years, works out at approximately £8 16s per cent. This is a high yield and indicates to some extent the measure of risk involved."

11. Costigliola (1976, p. 490) suggests that the Fed took this action in order to render investment in the Dawes Loan more attractive.

12. Stoddard (1932), p. 43.

13. Stoddard (1932), p. 43.

14. Cleveland and Huertas (1985), p. 135.

15. When in 1919 National City Bank opened its Lima branch, for example, the President of Peru offered the National City Company the opportunity to become the nation's investment banker. Phelps (1927), p. 211; Cleveland and Huertas (1985), p. 177. See also Carosso (1970).

16. Cleveland and Huertas (1985), pp. 137.

17. See Speaker (1924), ch. 2.

18. Robinson (1926), p. 327-8 and passim.

19. Both types of tales are too well known to require elaboration here. On selling the foreign borrower, one Department of Commerce expert told the Senate Finance Committee of a time at which there were at least 29 representatives of American investment banking firms in Colombia seeking to negotiate various loans. A Bavarian town initially wishing to borrow \$125,000 was convinced to commission an issue of \$3 million instead (U.S. Senate, 1932, pp. 845-848, 1279-1280). On selling the small investor, Stoddard (1932, p. 106) writes, "Up to the slump of 1920, these new clients sought the

branch-offices. After the slump, the branch-offices sought them. They did it through hosts of young salesmen, carefully schooled in "high-pressure" methods of breaking down "sales-resistance." Their keynote was pressure -- all down the line. The home office kept the branch-offices "on their toes" by a stream of phone-calls, "flashes," "pep-wires," and so forth. The branch managers kept the young salesmen all "burned up" with pep-talks, bonuses, and threats of getting fired. Everybody in authority demanded "results"; which meant, more sales. Every salesman must sell his "quota." What he sold, how he sold it, and whom he sold it to, did not much matter. Verily, business had got into banking; or, rather, "banking", in the old sense of the word, had been kicked out of doors by business."

20. Cleveland and Huertas (1985), p. 177.

21. Madden et al. (1937), p. 222.

22. The significance of this moral hazard problem is impossible to determine in the absence of detailed study of the operations of particular affiliates. But it is worth noting in this connection that White (1986) has found little empirical support for other criticisms of securities affiliates.

23. Feis (1950), p. 13.

24. Brandes (1962), p. 128.

25. Dulles (1926), pp. 35-37. There were also objections on other occasions, such as a loan for a Czech brewery, presumably on the grounds that this was inconsistent with a U.S. policy of Prohibition, and for a Brazilian coffee valorization scheme and a German potash syndicate, on the grounds that the higher prices which would result would be harmful to U.S. consumers. (Both borrowers ultimately succeeded in obtaining funds in London.) In addition,

President Harding urged his Secretary of State to discourage U.S. lending for foreign purchases of armaments.

26. Brandes (1962), pp. 177-178; Angell (1933), p. 101-102. France managed to circumvent U.S. restrictions to some extent before 1928. For example, Ivar Kreuger's Swedish Match Company loaned large sums to the French government soon after its U.S. subsidiary floated \$50 million of bonds on the American market.

27. Williams (1929), p. 95.

28. Cited in Brandes (1962), p. 186. Extracts from the whole series of State Department letters are provided by Kuczynski (1932), pp. 10-11.

29. Brandes (1962), p. 188.

30. Madden and Nadler (1929, p. 83), for example, in a manual on securities investment, instruct investors to consider trade and budget balances and natural resource endowments. See also pp. 96-97. Madden, Nadler and Sauvain (1937, p. 207) mention the trade balance, the budget balance, the position of the central bank, and the debt of the government.

31. Consistent with this hypothesis, Eichengreen and Portes (1986) found that government budget surpluses were negatively associated with the incidence of default in the 1930s.

32. Principal sources include the League's Statistical Yearbook, Memorandum on Public Finance, Review of World Trade and Balance of Payments and Foreign Trade Balances (various years).

33. Regressions where loan value was entered alone rather than as a share of export were virtually indistinguishable from those reported below.

34. These alternatives were omitted as the last year, country, and loan type

included in Lewis's lists. The constant of 6.7 is to be interpreted, therefore, as the return that would have been required of a Venezuelan corporation in 1929 in percentage points on small (value approaching zero) short-term loan floated by a Venezuelan corporation in 1929 had that country's trade and government budget been balanced.

35. In certain of the Central American countries, U.S. involvement had a military dimension with direct implications for creditworthiness. Under the Hay-Bunau Varilla Treaty of 1904, the U.S. was permitted to intervene in Panama City and Colon to preserve order and to supervise the expenditure of Panamanian government loans placed in the U.S. The Platt Amendment appended to the Cuban constitution in 1901 permitted the U.S. to object to what it regarded "improvident or otherwise objectionable fiscal policy." An American Receiver-General was installed in the Dominican Republic in 1907 to collect customs revenues, and in 1912 revolution led to the landing of U.S. marines, followed by formal military administration in 1916; even after the marines' withdrawal in 1924, the U.S. retained the right to object to changes in Dominican tariffs and public debt. Haiti was under U.S. martial law from 1916 to 1931, under the provisions of which the U.S. controlled the customs houses and all aspects of the public finances. See Angell (1933), pp. 8-27.

36. For details on bond market organization, see Eichengreen and Portes (1986).

37. 0.297 of a percentage point to be exact. This is an unweighted average of the commission on the dollar bonds for which Lewis provides information.

38. Kuczynski (1932), pp. 88-89. See also Madden, Nadler and Sauvain (1937), p. 228.

39. Yawitz (1977) shows that this formula applies equally to single and multi-period bonds so long as i_f and i_r are constant.
40. Circular of 14 June 1930, cited in Feis (1950), p. 45.
41. The sentence continues, "...but also the reduction in the real value of monetary claims through the rise in commodity prices...affecting domestic and foreign bonds alike." United Nations (1954), p. 41.
42. National Association of Manufacturers (1949), p. 2.
43. United Nations (1949), p. 17.
44. This amount would have been even greater if not for the capital gains of £84 million that resulted from the 1949 devaluation of sterling. United Nations (1954), p. 3.
45. The estimate for 1946-52 is from United Nations (1954), p. 4, that for 1920-26 from Royal Institute (1937), p. 200, correcting the typographical error for 1923, with a conversion to dollars using the annual average dollar/franc exchange rate. Much of the capital outflow from France in the 1920s was flight capital which was to return after the Poincaré stabilization in the second half of 1926.
46. United Nations (1965), pp. 33-38, 119.
47. See, for example, Eaton and Gersovitz (1981).
48. Of course, this procedure neglects subsequent wartime developments. But as Mintz (1950, p. 43) points out, "The great majority of countries that serviced their loans in 1937 did so in 1949; most of the countries in default in 1937 were in default in 1949."
49. The countries included in the regression analysis are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Haiti,

Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Sweden, the United Kingdom, Australia, Japan, Egypt and India.

References

- Angell, James W. (1933), Financial Foreign Policy of the United States.
New York: Council on Foreign Relations.
- Avramovic, Dragoslav (1958). Debt Servicing Capacity and Postwar Growth in International Indebtedness. Baltimore: Johns Hopkins University Press.
- Balogh, Thomas and Andrew Graham (1979). "The Transfer Problem Revisited: Analogies Between the Reparations Payments of the 1920s and the Problems of the OPEC Surpluses," Oxford Bulletin of Economics and Statistics 41: 183-192.
- Brandes, Joseph (1962). Herbert Hoover and Economic Diplomacy: Department of Commerce Policy 1921-1928. Pittsburgh: University of Pittsburgh Press.
- Carosso, Vincent P. (1970). Investment Banking in America. Cambridge: Cambridge University Press.
- Cleveland, Harold van B. and Thomas F. Huertas (1985). Citibank 1812-1970. Cambridge: Harvard University Press.
- Costigliola, Frank (1976). "The United States and the Reconstruction of Germany in the 1920s," Business History Review L: 477-502.
- Council of the Corporation of Foreign Bondholders (various years), Annual Report, London: Corporation of Foreign Bondholders.
- de Vries, Barend (1971). "The Debt Bearing Capacity of Developing Countries -- A Comparative Analysis," Banca Nazionale del Lavoro Quarterly Review: 12-18.
- Dickens, Paul D. (1932). American Underwriting of Foreign Securities in 1931,

U.S. Department of Commerce, Bureau of Foreign and Domestic Commerce.
Washington, D.C.: GPO.

Dulles, John Foster (1926). "Our Foreign Loan Policy," Foreign Affairs 5:
33-48.

Eaton, Jonathon and Mark Gersovitz (1981), "Debt with Potential Repudiation:
Theoretical and Empirical Analysis," Review of Economic Studies 48,
pp. 289-309.

Edwards, Sebastian (1986). "The Pricing of Bonds and Bank Loans in
International Markets: An Empirical Analysis of Developing Countries'
Foreign Borrowing," European Economic Review 30: 565-589.

Eichengreen, Barry (1986). "Understanding 1921-27 (Inflation and Economic
Recovery in the 1920s)," Rivista di Storia Economica 3: 34-66.

Eichengreen, Barry and Richard Portes (1986). "Debt and Default in the 1930s:
Causes and Consequences," European Economic Review 30: 599-640.

Feis, Herbert (1950), The Diplomacy of the Dollar: First Era, 1919-1932.
Baltimore: Johns Hopkins University Press.

Foreign Bondholders Protective Council (various years), Annual Report,
New York: Foreign Bondholders Protective Council.

Fraga, Arminio (1986). "German Reparations and the Brazilian Debt Crisis:
A Comparative Study of International Lending and Adjustment," Princeton
Studies in International Finance. Princeton: Princeton University
Press.

Guttentag, Jack and Richard Herring (1985). "Commercial Bank Lending to
Developing Countries: From Overlending to Underlending to Structural
Reform," in G. Smith and J. Cuddington, eds., International Debt and the
Developing Countries. Washington, D.C.: The World Bank.

International Monetary Fund (1978), International Financial Statistics, 1978

Supplement: Annual Data 1953-1977, Washington, D.C.: IMF.

Jorgensen, Erika (1987), "Default in Latin America in the 1930s: The Borrowers' Perspective," unpublished, Harvard University.

Kuczynski, Robert R. (1932), Bankers' Profits From German Loans, Washington, D.C.: The Brookings Institution.

Lindert, Peter H. and Peter Morton (1987), "How Sovereign Debt has Worked," unpublished, University of California, Davis.

Lipsey, Robert E. (1986). "Changing Patterns of International Investment in and by the United States." in Martin Feldstein (ed.), The Changing Role of the United States in the World Economy, Chicago: University of Chicago Press (forthcoming).

Lary, Hal B. and Associates (1943). The United States in the World Economy. Washington, DC: GPO.

Lewis, Cleona (1938). America's Stake in International Investments, Washington, D.C.: The Brookings Institution.

Madden, John T., Marcus Nadler and Harry C. Sauvain (1937). America's Experience as a Creditor Nation. New York: Prentice-Hall.

Madden, John T. and Marcus Nadler (1929), Foreign Securities, New York: The Ronald Press.

McNeil, William C. (1986). American Money and the Weimar Republic: Economics and Politics on the Eve of the Great Depression. New York: Columbia University Press.

- Mintz, Ilse (1951). Deterioration in the Quality of Foreign Bonds Issued in the United States, 1920-1930. New York: National Bureau of Economic Research.
- Morrow, Dwight (1927). "Who Buys Foreign Bonds?" Foreign Affairs 5: 219-232.
- National Association of Manufacturers (1949), Capital Export Potentialities After 1952: An Economic and Statistical Analysis, Economic Policy Division Series No. 7, New York: National Association of Manufacturers.
- Phelps, Clyde William (1927). The Foreign Expansion of American Banks. New York: Ronald Press.
- Ransom, Roger and Richard Sutch (1983). "Domestic Saving as an Active Constrain on Capital Formation in the American Economy, 1839-1928: A Provisional Theory." Unpublished manuscript, University of California.
- Robinson, Leland Rex (1926). Investment Trust Organization and Management. New York: Ronald Press.
- Royal Institute of International Affairs (1937), The Problem of International Investment, London: Oxford University Press.
- Sachs, Jeffrey (1979), "The Current Account and Macroeconomic Adjustment in the 1970s," Brookings Papers on Economic Activity, pp.
- Speaker, Lawrence M. (1924). The Investment Trust. Chicago: A.W. Shaw.
- Stoddard, Lothrop (1932). Europe and Our Money. New York: Macmillan.
- Swan, Joseph R. (1928). "The World's Present and Future Demand for Capital." Proceedings of the Academy of Political Science (January).
- United Nations (1948), Public Debt 1914-1946, Department of Economic Affairs, Lake Success, New York: United Nations.

- United Nations (1949), Capital Movements During the Inter-war Period,
New York: United Nations.
- United Nations (1954), The International Flow of Private Capital, Department
of Economic Affairs, New York: United Nations.
- United Nations (1958), Statistical Yearbook, New York: United Nations.
- United Nations (1965), External Financing in Latin America, Department of
Economic and Social Affairs, Economic Commission for Latin America,
New York: United Nations.
- United Nations, Committee for Development Planning (1986). Doubling
Development Finance. New York: United Nations.
- United States Department of Commerce (1952), Foreign Aid by the United States
Government 1940-1951, Washington, D.C.: GPO.
- United States Department of Commerce (various years), American Underwriting of
Foreign Securities, Washington, D.C.: GPO.
- United States Department of Commerce (1952), Balance of Payments of the
United States, 1946-1951, Washington, D.C.: GPO.
- United States Senate, Committee on Finance (1932). Sale of Foreign Bonds or
Securities in the United States, 72 Cong. 1 sess., Washington, D.C.:
U.S. Government Printing Office.
- Wilkie, James W. (1974), Statistics and National Policy, Los Angeles:
University of California.
- Williams, Benjamin H. (1929). Economic Foreign Policy of the United States.
New York:

White, Eugene Nelson (1986). "Before the Glass-Steagall Act: An Analysis of the Investment Banking Activities of National Banks." Unpublished, Rutgers.

Yawitz, J. (1977), "An Analytical Model of Interest Rate Differentials and Different Default Recoveries," Journal of Financial and Quantitative Analysis.