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11 The U.S. Capital Market and Foreign Lending, 1920–1955

Barry Eichengreen

11.1 Introduction

In the last 15 years, U.S. portfolio lending abroad has passed through a series of stages. After 1970 a period of inactivity first gave way to a surge of bank lending, followed by the development of debt-servicing difficulties and finally the curtailment of foreign lending. To a surprising extent, the recent rise and retreat of foreign lending resembles previous historical episodes in which surges of foreign lending were abruptly terminated by waves of default, only to start up again after a lull of several decades. This chapter studies the last such complete episode—the "debt cycle" through which the U.S. economy passed in the four decades following World War I—to see what light it sheds on recent developments in international capital markets.

11.2 The Debt Cycle of the 1920s

The forces underlying the debt cycle of the 1920s were set in motion by World War I. The war transformed the United States from a net debtor to a creditor nation: between 1914 and 1919, largely as a result of loans floated on behalf of the French and British governments, America's net debtor position was extinguished and replaced by a net creditor position of comparable magnitude (see table 11.1). There followed a

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Table 11.1 International Investment Position of the United States 1897–1939 (Excluding War Debts) ($ billions)

Item	End of 1897	1 July 1914	End of Year 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	{3.1	1.3	0.9	1.4[a]	1.8[b]	2.0
Portfolio[c]		5.4	1.6	4.3[a]	3.1[b]	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[d]	−0.7[d]	0.6	−2.7[d]
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

Sources: Lewis (1938), Lary (1943), U.S. Department of Commerce, *Historical Statistics of the United States* (1976).

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.

[a]1929 data.

[b]1934 data.

[c]Includes miscellaneous investments.

[d]Net debtor position.

surge in peacetime lending, mainly by the United States, matched previously only by the United Kingdom in the period 1900–13. That lending reflected a combination of factors: continued rapid growth of the U.S. economy, the wartime rise in saving, and the demand for capital to reconstruct the devastated European economies.

Yet in the immediate aftermath of World War I, the international capital market remained becalmed. It is true that changing rates of return played some role in the reignition of U.S. foreign lending; figure 11.1 shows how, compared to domestic medium-grade bonds, the return on foreign medium-grade bonds rose steadily from the early 1920s until 1928. But 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 U.S. investors were virtually unwilling to lend to foreigners at any price. The risks of lending were most evident in the case of Central Europe. So long as the value of their reparations obligations remained uncertain, it was not clear that the nations of this region possessed the resources to service additional external debt. So long as their financial systems remained in disarray, it was not clear that they were capable of mobilizing those resources they possessed. The initiation of lending required League of Nations intervention in the form of stabilization loans and assistance in carrying out fiscal and monetary reform.

Yet the perception that foreign lending was risky was not limited to Central Europe. At the beginning of the 1920s, lending to Latin America also remained depressed (table 11.2). Here the dominant factor was the depressed level of world trade and uncertain prospects for its recovery, which cast doubt over the capacity of foreign debtors to generate export revenues. The initiation of lending required substantial steps to reconstruct international trade and international financial

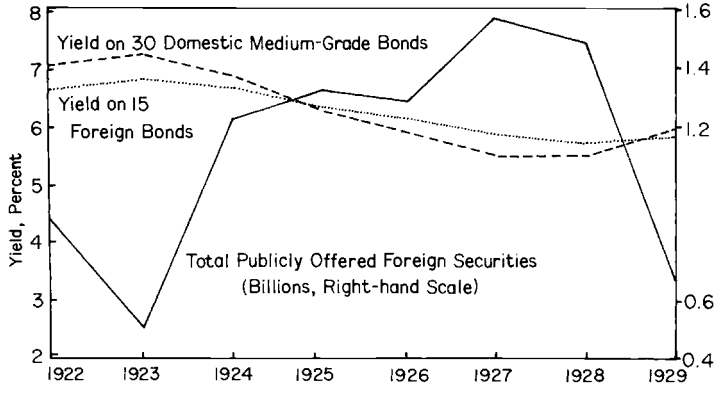

Fig. 11.1 Relative interest rates and foreign issues, 1922–1929

Table 11.2 **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	1,067.1	983.0
1926	43.5	20.3	33.1	2.8	1,110.2	1,056.4
1927	44.2	18.1	26.0	11.5	1,304.6	1,299.3
1928	48.0	14.8	26.5	10.5	1,243.7	1,221.3
1929	21.5	44.0	26.5	7.8	658.2	658.2

Source: Computed from U.S. Dept. of Commerce, *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, *Historical Statistics of the United States* (1976).

Note: Percentages may not sum to 100 because of rounding.

arrangements. If a lesson is to be drawn from the initiation of this earlier debt cycle, it is that an existing debt overhang and threats to an open trading system can dam the flow of resources to potential borrowers, and that outside intervention by governments or international institutions may be required to restart it.

In the 1920s as in the 1970s, the surge in foreign lending was greatly stimulated by financial innovation. American investors acquired familiarity with the merits of foreign bonds through the Liberty Loan campaign of World War I. Banks enlisted in that campaign established or expanded their bond departments. Still others established security affiliates to engage in the entire range of bond market activities. Once the Federal Reserve Act relaxed restrictions on foreign branching, member banks began to move abroad. The growth of the investment trust enabled the small investor to participate in the market. Together, the rapid development of retailing and underwriting activities and the proliferation of investment vehicles provided organizations and individuals both the incentive and the opportunity to increase their participation in foreign bond markets.

11.3 Pricing Foreign Bonds

How did foreign lending operate once it was again underway? A standard criticism of the international capital market in the 1920s is

that it failed to discriminate adequately among borrowers. This same criticism has been leveled at U.S. lenders in the 1970s, providing the motivation for studies of the pricing of foreign bonds (Guttentag and Herring 1985). These modern studies provide a benchmark for comparison with my analysis of the bond market in the 1920s. I analyze the determinants of the yield to maturity on a pooled time series–cross section of some 200 categories of foreign bonds issued in the United States between 1920 and 1929. (Complete results are reported in Eichengreen, vol. 1, chap. 3 of this project.) I find a positively sloped yield curve and a relatively high risk premium on foreign corporate bonds. While both results are consistent with standard models, interestingly they contrast with the findings of other investigators for the 1970s (Edwards 1986). I also find that the lowest risk premia were consistently charged to Scandinavian countries, members of the British Commonwealth, small Western European countries, and small Central American republics economically or politically dependent on the United States, confirming that national reputation and political considerations played a role in the pricing of foreign bonds. But there is little evidence that lenders took into account current economic policies in borrowing countries, or that they charged higher premia for larger loans. It would seem that reputation more than current economic developments influenced bond market participants.

This analysis provides some evidence that lenders discriminated among potential borrowers on the basis of reputation and political factors that conveyed information about the probability of default. But did they discriminate adequately? To address this issue I specify a simple model of ex ante and ex post returns. The expected rate of return on risky loans, i_r, should exceed the risk-free rate, i_f, by a risk premium:

$$i_r = i_f + \delta\sigma \tag{1}$$

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:

$$i_{ex\ ante} = i_r + \beta\sigma \tag{2}$$

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

$$i_{ex\ post} = i_r + \epsilon. \tag{3}$$

Substituting and solving for the ex post return gives

$$i_{ex\ post} = \frac{\beta/\delta}{1 + \beta/\delta} i_f + \frac{\delta + \beta}{\delta} i_{ex\ ante} + \epsilon. \tag{4}$$

If investors' expectational errors have mean zero, in a regression of ex post on ex ante returns the constant term

$$\left(\frac{\beta/\delta}{1 + \beta/\delta}\, i_f\right)$$

should be positive and the coefficient on $i_{ex\ ante}$ should be greater than unity.

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 United States between 1924 and 1930, equation (4) can be estimated, yielding

$$i_{ex\ post} = \underset{(0.94)}{9.00} - \underset{(0.89)}{120.59}\, i_{ex\ ante} \tag{5}$$

$$N = 50 \qquad R^2 = 0.016$$

with t-statistics in parentheses. Although the constant term is positive, the coefficient on $i_{ex\ post}$ is less than unity, which is inconsistent with the joint hypothesis of rational expectations and market efficiency. That coefficient can be interpreted to mean that investors systematically underestimated the cost of default on those bonds most at risk, incompletely incorporating differential default risk into the spreads they demand of foreign borrowers.

If default risk was imperfectly perceived at time of issue, bondholders still could have recognized and acted upon it subsequently. I therefore examine the pricing of these same foreign bonds after 1931. Naturally, the suspension of service is reflected in the prices of defaulting bonds. But in addition it is evident in the prices of continuously serviced bonds, as illustrated by the implicit expected capital losses (probability of default times capital loss in the event) on three Scandinavian bonds considered in figure 11.2. This suggests that default carried negative externalities creating doubt about the creditworthiness even of countries maintaining service on their external debts.

11.4 Default and Market Access

Approximately two-thirds of foreign securities held by American investors fell into default over the course of the Depression decade. Contemporaries were convinced that the experience had a lingering impact on the attitudes of American investors. One way to approach 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 the first half of the 1950s constitute a special period in the history of the world economy, following as they do a global war. But the years 1919–28 are an equally special period for many of the same reasons, rendering the comparison apposite. The comparison reveals

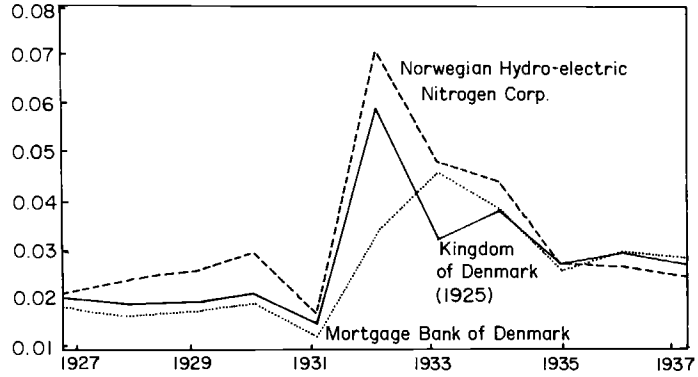

Fig. 11.2 Implicit expected capital losses: Scandinavian bonds

that U.S. capital exports actually were larger in the second postwar decade than in the first (table 11.3). The difference is due, however, almost entirely to unilateral transfers by government, notably the Marshall Plan. Moreover, the real value of portfolio lending fell dramatically between the decades following World Wars I and II, by more than 80 percent. This is precisely what one would expect had purchasers been deterred by interwar experience with default.

This decline in portfolio lending could reflect either a general disenchantment with foreign loans or a special inability to borrow by countries with a recent history of default. While consistent country data on the extent of total foreign borrowing after World War II are notoriously difficult to obtain, reasonably consistent data on stocks of debt in 1945, 1950 and 1955 are available courtesy of Avramovic (1958). 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. Standard borrowing models advance country size, the share of imports in domestic consumption, and export variability as additional determinants of foreign borrowing. 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 Avramovic data as supplemented by United Nations and International Monetary Fund documents and annual reports of bondholders' protective committees. Table 11.4 reports cross-section regressions for 32 countries, of which 18 are Latin American. The dependent variable is terminal stock of debt of the public authorities. Indebtedness is positively related to GNP, the import share, and the initial stock of debt, as anticipated. But there is no evidence that the severity of interwar default, as measured by the share of debt in default in 1935, was negatively related to ability

Table 11.3 **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- and short-term	2,328	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	n.a.	n.a.	n.a.	n.a.	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
	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	Decade Average
Public, long- and short-term	2,705	3,079	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	2,015	1,416	2,580	3,620	2,430	1,904	1,315	1,262	1,131	1,299	1,871

Source: U.S. Department of Commerce, *Historical Statistics of the United States* (1976, 198–201, 866–67).

Notes: n.a. indicates not available. Decade average short-term capital flow for the twenties is for the years 1923–28 only.

Table 11.4 **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	−1254.12	−2.65	−1,169.87
	(1.25)	(3.78)	(1.78)	(3.88)
Share of debt in default, 1935	0.65	613.40	0.75	557.65
	(1.27)	(2.89)	(1.56)	(2.90)
Log GNP	0.75	—	0.81	—
	(4.21)		(5.50)	
GNP	—	0.08	—	0.07
		(7.04)		(10.34)
Import/GNP ratio	0.85	3,723.12	1.01	3,497.55
	(0.31)	(3.12)	(0.38)	(3.10)
Log debt in 1945	0.16	—	0.17	—
	(3.52)		(3.56)	
Debt in 1945	—	0.67	—	0.68
		(2.91)		(2.99)
Export variability	0.01	−0.01	—	—
	(0.62)	(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

Source: See text.

Note: t-statistics in parentheses.

to borrow between 1945 and 1955. 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.

While the Avramovic data have the virtue of consistency, they have the problem of combining all external debt of governments, whether extended by international agencies, creditor country governments, or private investors. It would be advisable to analyze private portfolio lending (to both 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. This can be done for private portfolio lending to the Latin American countries, for which the United Nations (1965) has published estimates. Table 11.5 reports a regression analysis of these data. The bivariate relationship between postwar portfolio borrowing and interwar default, shown in the first column, is positive but statistically insignificant. Once

Table 11.5 **Determinants of Private Portfolio Capital Inflow to Latin American Countries, 1946–55 (The dependent variable is in millions of U.S. dollars.)**

	(1)	(2)	(3)
Constant	−3.59	−3.14	7.11
	(0.18)	(0.12)	(0.18)
Share of debt in default, 1935	17.75	−14.31	−17.63
	(0.76)	(−0.81)	(0.86)
GNP	—	0.01	0.01
		(4.64)	(4.31)
Import/GNP ratio	—	46.00	5.63
		(0.38)	(0.03)
Debt in 1945	—	—	−0.013
			(0.35)
Export variability	—	−0.005	−0.005
		(3.22)	(3.13)
Number of observations	18	18	18
R^2	.04	.68	.69
F	0.58	7.01	7.15

Source: See text.
Note: t-statistics in parentheses.

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 it is statistically indistinguishable from zero at standard confidence levels. Once again, it is impossible to reject the null hypothesis that variations across countries in the severity of interwar default had essentially no impact on access to private portfolio capital during the postwar years.

The finding of a much reduced volume of private portfolio lending and the finding of no greater difficulty of borrowing for countries that defaulted previously are not difficult to reconcile with one another. Recall that interwar default translated into expectations of significant capital losses on the bonds of even those countries which continued to service their debts. This suggests that some effects of interwar defaults were external to the initiating country, consistent with the conclusion that the main legacy of interwar debt default was to depress the volume of private portfolio lending generally, not to divert it to faithful servicers from countries which lapsed into default.

11.5 Conclusion

What picture of the capital market emerges from this study of the United States' first 35 years as a creditor nation? It is 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 from bank loans to the bond market may divert some of the risk shouldered by creditor-country banking systems (Eichengreen and Portes 1987), bond market participants have shown no greater facility than have 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 capital market emerges from this study of the last complete debt cycle? Recent theoretical studies of sovereign lending in the presence of potential default (Eaton and Gersovitz 1981) have posited the existence of a default penalty, usually interpreted as the costs of reduced capital market access. 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 and 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.

References

Avramovic, Dragoslav. 1958. *Debt-servicing capacity and postwar growth in international indebtedness*. Baltimore, Md.: Johns Hopkins University Press.

Eaton, Jonathan, and Mark Gersovitz. 1981. Debt with potential repudiation: Theoretical and empirical analysis. *Review of Economic Studies* 48: 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: 565–89.

Eichengreen, Barry, and Richard Portes. 1986. Debt and default in the 1930s: Causes and consequences. *European Economic Review* 30: 599–640.

———. 1987. The anatomy of financial crises. In *Threats to International Financial Stability,* ed. Richard Portes and Alexander Swoboda, 10–58. Cambridge: Cambridge University Press.

Guttentag, Jack, and Richard Herring. 1985. *The Current Crisis in International Lending,* Washington, D.C.: The Brookings Institution.

Lary, Hal B. et al. 1943. *The United States in the world economy.* Washington, D.C.: Government Printing Office.

Lewis, Cleona. 1938. *America's stake in international investments.* Washington, D.C.: The Brookings Institution.

United Nations. 1965. *External financing in Latin America.* Department of Economic and Social Affairs, Economic Commission for Latin America. New York: United Nations.

United States Department of Commerce. Various years. *American underwriting of foreign securities.* Washington, D.C.: Government Printing Office.

———. 1976. *Historical statistics of the United States: Colonial times to 1970.* Washington, D.C.: Government Printing Office.