Volume Title: Developing Country Debt and the World Economy

Volume Author/Editor: Jeffrey D. Sachs, editor

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-73338-6

Volume URL: http://www.nber.org/books/sach89-3

Conference Date: September 21-23, 1987

Publication Date: 1989

Chapter Title: How Sovereign Debt Has Worked

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Chapter URL: http://www.nber.org/chapters/c7529

Chapter pages in book: (p. 225 - 236)

10 How Sovereign Debt Has Worked

Peter H. Lindert and Peter J. Morton

10.1 Introduction

The international financial community has often preferred to repeat the past rather than study it. Since 1974 international lending has passed through another cycle of enthusiasm followed by nonrepayment and creditor revulsion, repeating a pattern that has recurred several times since the 18th century.

The process is costly. Relative to ordinary private lending, lending to sovereign foreign debtors brings costs to either side or both sides, and often to third parties. The unenforceability of debt service obligations sooner or later breeds lasting creditor distrust and cuts the supply of capital to countries where its marginal product is generally high. The debtors' macroeconomies are destabilized by the borrowing boom and later bust, especially when the bust brings unforeseen austerity.

Those caught in the current lingering debt crisis cannot blame their innocence on an absence of historical literature. That literature was vast even before the crisis broke in 1982, and in this chapter we extend it in two directions. Section 10.2 discusses creditors' returns and the treatment of defaulters since 1850. Past lending to foreign goverments has brought high private returns in the aggregate, but with curious patterns. Investors seem to have paid little attention to the past repayment record of the borrowing governments. They may or may not have been wise in ignoring the past. Their inattention, at any rate,

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reveals that they do not punish governments with a prior default history, undercutting the belief in a penalty that compels faithful repayment.

Section 10.3 turns to historical experience with the different policy options available in the wake of a major debt crisis. Noting the necessary imperfections in any policy approach, we discuss some arguments in favor of the older bond-era direct confrontation between problem debtors and their creditors, an approach that usually led to partial default. The more recent approach of bringing the IMF and the World Bank into tripartite debt-crisis negotiations has brought extra costs relating to moral hazard, delays, and macroeconomic adjustment.

10.2 Sovereign Debt Repayment Since the Early 19th Century

If there were no third-party rescuer, no International Monetary Fund, how would soverign debt work? How well would creditors and debtors be likely to fare? How far below the ex ante contracted rates of return were the rates eventually realized by the whole chain of debtholders? Were the returns either so excessive or so low that they suggest a case for special policy intervention in defense of either debtors or creditors? While the future need not match past patterns, there is a long and varied history to tap in forming guesses.

10.2.1 Background

Fresh lending to foreign governments followed the same wave-like pattern as other international lending in the 19th century and early 20th centuries. There was a post-Napoleonic wave in the 1820s, including loans to most of the newly independent nations of Latin America, followed by widespread default. Gross lending to governments, like international lending in general, returned to high tide in the 1850s, in the late 1860s–early 1870s, in the late 1880s, in 1904–14, and again in the late 1920s. The wave of lending to foreign governments in the late 1920s, like that of 1974–82, exceeded any before World War I in real absolute value and even as a share of lender-country GNP. Each wave ended with at least some occurrence of repayments breakdown, sometimes because of international trade depression, sometimes because of government budget crises, and sometimes because of revelation of financial abuses.

Who defaulted, and when? Soon after the lending wave of the 1820s most Latin American governments defaulted to some degree. Several southern states in the United States defaulted in the 1830s–40s and again in the Reconstruction era. Latin America and the Eastern Mediterranean (Greece, Turkey and, momentarily, Egypt) figured prominently in the default waves of the mid-19th century. The end of the late-1880s lending wave featured relatively few defaults, the most not-

able being Argentina's partial nonrepayment (on which more later) and lingering difficulties with Colombia's debt service. Brazil's good record was finally compromised with repayment lapses necessitating refunding loans in 1898 and 1914. The 1910s brought wholesale defaults in the Mexican Revolution, the Russian Revolution, and the fall of the Ottoman Empire. The broadest wave, however, came in the early 1930s (Eichengreen and Portes 1986; Eichengreen, chap. 11 in this volume) in which essentially all of Latin America, most of Eastern Europe, Turkey, and China defaulted. In the early postwar years, with bond finance dried up and most of the trickle of loans coming from governments or with their guarantees, outright default was replaced with a murmur of repeated concessionary refundings for problem governments, notably Turkey, Latin America, and some newly independent nations. The list of countries needing concessionary refundings in the 1970s and 1980s is more extensive but similar, still featuring Latin America, Eastern Europe and now much of Africa.

Other areas always repaid. One was Western Europe outside of Germany and Spain. Another consisted of the sovereign Arab nations, with only slight exceptions. Asia east of the Persian Gulf consistently repaid, except for China in the 1930s, Japan between 1941 and 1952, and the independent Philippines. So did the white Commonwealth nations.

To judge debtors' repayment behavior or to judge the lenders' behavior, one needs a careful accounting of their borrowings and debt-service outflows. We began with the bonds outstanding in 1850, and those floated between 1850 and about 1970, following them all the way to settlement or to the end of 1983. We follow the experiences of ten borrowing governments: Argentina, Australia, Brazil, Canada, Chile, Egypt, Japan, Mexico, Russia and Turkey. We follow their foreign bond debt, drawing on bondholder annuals, periodic compendia of foreign investments (Fenn, Fitch, Kimber, Dominick and Dominick, etc.), and country studies. We concentrate on bond lending, with separate later treatment of the brief bank-loan wave of 1974–82.

10.2.2 Choosing Summary Measures

Summarizing the flows of real resources between creditors and debtors calls for three related measures. One is the internal rate of return on the loans, with all flows converted into real consumable resources in the lending countries.

The second measure is the real rate of return on an alternative asset, used for comparison with the real (and realized) internal rate on foreign sovereign debt. The main quantitative results all compare sovereign foreign debt with home-country (U.K. and U.S.) bonds. The third summary measure is a net present value of the foreign sovereign debt vis-à-vis home country debt.

Table 10.1 sets the stage by introducing national average ex ante returns and capitalized values contracted at the time of bond issue. In the bond era, investors asked for premia ($\nu - \bar{\rho}$) on foreign government bonds that were usually between 1.5 and 2.6 percent. These premia will serve as a yardstick for several comparisons to follow. We will find, first, that the real realized returns were well below these ex ante premia. Virtually all of the shortfall in real realized returns was due

Table 10.1 **Contracted Nominal Returns on Bond Lending to Ten Foreign Governments, All Marketed Bonds, 1850–1970 with Payments through 1983**

Borrowing Nation	n	Rates of Return(%)			(Millions of $)		Risk-Neutral Expected % of Capital loss
		ν	$\bar{\rho}$	$\nu - \bar{\rho}$	NPV	L_0	
Argentina	181	5.92	3.47	2.45	561.4	2,476.6	2.31
Brazil	129	6.19	3.64	2.55	572.3	1,517.4	2.40
Chile	60	6.89	3.94	2.95	274.5	637.5	2.76
Mexico	48	5.83	3.11	2.72	376.8	843.8	2.57
Four Latins	418	6.09	3.52	2.57	1,785.0	5,475.4	2.43
Australia	439	5.60	4.52	1.09	1,358.7	9,836.9	1.03
Canada	488	4.51	2.82	1.69	925.9	1,635.6	1.61
Egypt	20	6.71	3.29	3.43	222.9	513.9	3.21
Japan	60	5.75	3.51	2.24	525.1	1,682.4	2.11
Russia	48	4.94	2.92	2.01	1,952.2	3,456.4	1.92
Turkey	46	5.86	3.33	2.53	744.9	1,300.1	2.39
These six	1,101	5.44	3.86	1.59	5,729.7	18,425.3	1.50
All ten	1,519	5.59	3.78	1.81	7,514.7	23,900.6	1.72

Notes:

n = the number of bonds covered here.

ν = the internal rate of return implied by the bond issue price and repayment terms.

$\bar{\rho}$ = the rate of interest on bond lending to the home government (U.K. consol rate or U.S. Treasury long-term bond rate, depending on the place of issue).

NPV = net present value, defined in the following special way: the amount investors were able to save by buying the same promised repayment stream from a foreign government at higher interest instead of from the British or U.S. government.

L_0 = the gross value initially lent to the foreign government.

The "risk-neutral expected % of capital loss" = $(\nu - \bar{\rho})/(1 + \nu)$ is a suggestive hypothetical measure used here as in Feder and Just (1984). If bond purchasers were risk-neutral, the coexistence of the two rates of return, ν and $\bar{\rho}$, would imply the stated percentage of expected nonrepayment on the higher-yielding foreign bonds. To the extent that purchasers are risk-averse, $(\nu - \bar{\rho})/(1 + \nu)$ overstates their expectation of capital losses and instead reflects their aversion to the asset with the higher contracted yield.

Our sample excluded bonds issued in the 1970s and 1980s, except for those issued by Australia. We sought to follow all external bond issues up to about 1970. Specifically, our bond populations stopped with bonds issued in the following final years: Argentina, 1968; Australia, 1978; Brazil and Chile, 1930; Canada, 1967; Egypt, Japan and Turkey, 1965; Mexico, 1966; and Russia, 1916. All subsequent flows were followed through 1983, after which the remaining small balances were assumed to be paid off.

to defaults, not to ex post inflation, which affected both home-bond and foreign-bond returns similarly. Second, the ex ante rates in table 10.1 did not differ across countries in any way that consistently foretold the international differences in ex post returns. The wide differences in realized returns were either poorly predicted or, as seems more likely, simply impossible to predict.

Real realized returns are summarized in table 10.2, with values in sterling at 1913 prices converted into 1913-price dollars at $4.86. Leaving the details in individual-country experience to the fuller version of this study, we examine the global returns.

10.2.3 Global Returns to Lenders, in the Bond Era and since 1973

Combining the ten countries' diverse experiences, table 10.2 shows that investors made more on bond lending to foreign governments than on safer home governments, despite the revolutions and the Great Depression. Foreign bondholders got a net return premium of 0.44 percent per annum on all bonds outstanding anytime between 1850 and about 1970 (with payments carry-over traced through 1983). Curiously enough, the bonds issued in the troubled years between 1915 and 1945

Table 10.2 **Realized Real Returns on Bond Lending to Ten Foreign Governments, 1850–1970, with Payments through 1983**

Borrowing Nation	n	Rates of Return(%)			($ mill. at 1913 prices)	
		ν	$\bar{\rho}$	$\nu - \bar{\rho}$	NPV	L_0
Argentina	187	3.52	1.56	1.96	405.9	1,943.4
Brazil	143	2.97	2.14	0.83	156.5	1,278.5
Chile	60	1.66	1.88	−0.22	−3.9	501.3
Mexico	52	−0.21	1.72	−1.92	−140.1	564.6
Four Latins	442	2.65	1.75	0.86	418.4	4,287.7
Australia	439	3.00	1.97	1.03	669.6	4,873.6
Canada	488	1.91	0.35	1.56	512.3	969.1
Egypt	21	6.21	3.68	2.53	219.5	408.8
Japan	60	2.90	1.33	1.58	290.3	1,346.5
Russia	48	1.31	2.94	−1.63	−691.1	3,340.9
Turkey	54	1.29	2.58	−1.29	−174.0	919.1
These six	1,110	2.40	2.14	0.26	826.6	11,858.0
All ten	1,552	2.47	2.05	0.42	1,245.0	16,145.8

Notes: The algebraic symbols are defined as in table 10.1, except that real rates replace nominal. The rates of return, ν and $\bar{\rho}$, now contain subtractions for the ex post rate of consumer-price inflation in the lending country, and every flow is deflated by a lending-country consumer price index.

The present figures are based on a larger set of bonds than in table 10.1. Conversion bonds, aimed at reviving payments on previous problem bonds, are now included. In some cases these were attached to the records of the previous problem bonds, while in other cases they were entered as separate bonds.

fared better (for creditors) than those issued back in the prewar golden age. The bonds issued between 1850 and 1914 barely broke even with home-government bonds in the ex post measures used here, while those from 1915 to 1945 realized a premium of 1.21 percent.

Have creditors fared better or worse on loans to foreign governments since 1973? Like their bond-era predecessors in table 10.1 above, they charged roughly a 2 percent interest premium in ex ante nominal terms. So far, up to the landmark Brazilian suspension of payments in February 1987, virtually the full debt service was honored. The flurry of reschedulings in the period 1982–86 had little effect on realized rates of interest, offering debtors little relief. To be sure, financial markets have come to *expect* a breakdown of debt service. The informal secondary market for banks' loans to problem debtors has discounted Third World loans by about a third. Top U.S. banks have posted over $16 billion in reserve-addition loss, a significant part of it an expected loss on foreign debt. Yet these market expectations of banks' losses greatly exceed the shortfall of realized debt service. As of the end of 1986, creditors could afford a write-down of 9.2 percent and still receive the same ex post return they would have received from U.S. government bonds of the same maturities as the loans to the third World. By taking a 4.0 percent loss, alternatively, they could have reaped the same 0.42 percent premium over U.S. bonds that their bond-era predecessors received. Or they could suffer major losses if the pessimism of the secondary loan market is correct. The jury is still out.

10.2.4 Past Problem Debtors Have Become Problem Debtors

There is a curious tendency toward historical consistency in the identities of the defaulters. The set of borrowing countries defaulting (wholly or partially) before World War I had a higher probability of default in the 1930s than did other countries receiving loans in the 1920s. Again, the set of borrowing countries defaulting either before 1930 or in the 1930s had a higher probability of needing concessionary "rescheduling" of loans since World War II.

Table 10.3 summarizes the historical consistency in the identities of the defaulters and reschedulers. The shares of countries falling into problem-debtor status (default, arrears, or, in the 1980s, signing rescheduling agreements) are contrasted between two kinds of countries: those with and those without such status in an earlier period. We chose periods long enough so that a worldwide wave of defaults had time to abate, allowing a renewal of worldwide lending. There is a striking pattern of statistical significance. In either worldwide lending crisis (the 1930s and 1980–86), the problem debtors tended to be those who had had problems earlier. The pattern holds whether one looks across all countries or just across large samples of developing countries. We can

Table 10.3 **Historical Rates of Transition into Problem-Debtor Status, among Five Periods, 1820–1986**

Earlier period →	Later period	Among Earlier Full Repayers		Among Earlier Problem Debtors		Difference in Transition rates	
		n	δ_r	n	δ_d	$\delta_d - \delta_r$	(signif.)
A. All debtors							
1820–79 →	1880–1929	19	.105	23	.696	.591	* *
1880–1929 →	1930s	32	.313	20	.800	.487	* *
1820–79 →	1930s	23	.217	26	.692	.475	* *
1930s →	1940–79	22	.182	22	.364	.182	
1940–79 →	1980–86	118	.237	21	.666	.429	* *
1820–1929 →	1980–86	24	.167	25	.640	.473	* *
1930s →	1980–86	25	.200	24	.625	.425	* *
B. Developing-country debtors only							
1820–79 →	1880–1929	9	.222	23	.696	.473	*
1880–1929 →	1930s	22	.409	20	.800	.391	*
1820–1929 →	1930s	14	.357	26	.692	.335	*
1930s →	1940–79	11	.364	20	.350	.014	
1940–79 →	1980–86	96	.292	20	.700	.408	* *
1820–1929 →	1980–86	8	.500	23	.696	.196	
1930s →	1980–86	9	.556	22	.682	.126	

Notes:
n = number of countries covered.
δ = share of sovereign debtor governments becoming problem debtors in the later period.
* = difference is significant at the 5% level with a two-tailed test.
* * = difference is significant at the 1% level with a two-tailed test.
"Sovereign debtor governments" are national or local governments in those countries whose national government was recognized as sovereign in budget setting and contract law in both the earlier and the later period, and which actually received foreign loans within both periods. Excluded (as nondebtors) are four usually-creditor nations: U.S., U.K., France, Germany. "Problem debtors" are those whose national or local governmetns did not repay contracted external debt in full, whether through repudiation or through recorded arrears lasting more than a year or (1980–86 only) signing rescheduling agreements with creditors.

reject the notion that repayments breakdown in crises is uncorrelated with the same nation's distant debt history.

10.2.5 Were Defaulters Punished?

A clear result from the history of rates of return on sovereign debt relates to the ex post treatment of those who fell into arrears: The only ones punished were a few countries defaulting in isolation before 1918. The majority of nonrepayers "escaped" punishment during global crises. In the 1930s, debtors may have seemed to suffer credit cutoffs and trade retaliation, but the impression misleads. In that crisis and its long early-postwar aftermath, the United States and other creditors were

indiscriminate in their denial of fresh credits: Almost *no* governments in less developed countries got fresh loans, whether they were repaying old ones or not. Even trade policy, which had the chance to discriminate in the bilateralism of the 1930s, was not used to discriminate against defaulters or in favor of faithful repayers. Protectionism was too sweeping.

In the enthusiastic lending of the 1974–82 wave, lenders paid no attention to past histories of default. Between 1976 and 1979, for example, the same interest premia were charged to those Third World countries that had repaid faithfully in the past and those who had not.

In the 1980s, the signs of discrimination against problem debtors remain weak. Bond lending has virtually dried up, and the revival of bank lending has been very meager, for countries who have repaid faithfully as well as for those demanding repeated rescheduling. Whatever the private wisdom of the pervasiveness of creditor pessimism, the external cost of repayments breakdown seems as evident in the 1980s as in the 1930s: Some faithful repayers (e.g., Colombia, Egypt) have suffered credit contraction along with problem debtors.

Thus the seeming irrelevance of repayments history in creditors' eyes is itself a lesson of history. It predicts that borrowers will not suffer much by following the lead of Peru and Bolivia in 1984 and Brazil and Ecuador in 1987 in cutting repayments and demanding partial write-downs of debt, at least if they do so collectively.

10.3 Options for Handling Debt Crises: Some Suggestions from History and Theory

A combination of history and theory offers tentative lessons on dealing with a repayments crisis once it has already occurred. What is special about the lingering crisis of the 1980s is official third-party intervention, led by the IMF.

To understand what difference the third-party option makes in a debt crisis, we start with an analytical framework developed elsewhere (Lindert 1986). The framework derives much of its power from the definition of a debt crisis: A debt crisis exists *if, in the absence of a better offer, the debtor would rather impose unilateral nonrepayment than repay fully.* By definition, simple full repayment by the debtor, with no outside help, is ruled out. Further, the definition of a debt crisis makes it virtually a situation of revealed overlending, so that merely lending more on the same terms cannot erase the default incentive except under implausible conditions. The alternatives to destructive default reduce to two: either (1) write-downs of part of the debt (either unilaterally or through bilateral negotiation), or (2) third-party rescue packages (sometimes involving relending by the original creditors). Either option brings gains in world wealth by avoiding destructive penalties by the

creditors, the damage value of which would not be fully recaptured by them. And either accelerates the renewal of fresh lending, relative to doing nothing about the crisis. But they differ in other important respects.

10.3.1 Two-Party (or Unilateral) Debt Write-Downs

Partial debt write-downs can work, and have worked, in a variety of ways. They can be imposed unilaterally by debtors, in the knowledge that the creditors cannot inflict sufficient damage to dissuade them. In this unilateral case, the debtor calculates the share of write-down that would push marginal benefits down to the marginal cost (direct penalties and loss of borrower surplus on later credit) of extra repudiation. Creditors then decide whether to take the imposed settlement or to hold out indefinitely. The unilateral variant was imposed by Brazil in 1943, and by the end of the decade most creditors had taken what Brazil offered. Credit to Brazil was slow to revive thereafter, but probably no slower than it was for better-repaying Third World countries.

A smoother and more bilateral process is one in which the debtor, in announcing a plan for partial write-down, chooses terms that are more likely to win quick acquiescence by creditors, possibly in consultation with creditors. Two excellent illustrations were the Mexican decrees under Porfirio Diaz in 1885 and Argentina's Romero Plan of 1893. In both cases, creditors soon gave their collective approval, and repayments and fresh lending promptly followed.

Still more bilateral are cases in which the two sides work out a compromise from the start. This is easiest in cases where the debtor is willing to write down very little, i.e., cases closer to pure rescheduling with no change in capitalized contractual value. The Brazilian refunding loans of 1898 and 1914, worked out with the help of the Rothchilds, serve as examples. These refunding loans, incidentally, were accompanied by conditionality, with Brazil restricting her money supply as part of the bargain.

The two-party (and unilateral) write-downs were not always prompt or tidy. In some cases delays were involved, and in others no solution was reached. Massive total default was the outcome of the Mexican, Russian, and Turkish Revolutions and in many cases of default during the 1930s. History, like existing game theory, has no way of assuring a smooth outcome of international debt conflict. But the mechanisms of direct bargaining and write-downs are traditional and simple, and free of the special complications arising from the remaining alternative, third-party intervention.

10.3.2 The Three-Party Approach

Postwar international debt settlements have been shaped by the intervention of such third parties as the IMF, the Paris Club, and the World Bank. The period of most intense activity, the attempts to

reschedule and renegotiate debt since the crisis became acute in 1982, has revealed special problems with the three-party approach, both in practice and as a stylized ideal type.

In practice, third-party intervention has brought delays and temporizing rollovers. The rescheduling agreements have basically just postponed and capitalized debt service, without any real concessionary terms. They have also become addictive: Almost every country involved in rescheduling since 1978 has been covered by new agreements ever since. The lingering uncertainty over the shape of the ultimate settlement is, we suspect, a major force depressing capital formation throughout the Third World since 1982.

The stylized three-party approach would involve a relending rescue not yet evident in actual practice. The third party would give new concessionary loans, bailing out the original creditors and granting a capital gain (a partial default) to the debtors, at the expense of distant taxpayers. If such genuine concessions were forthcoming, they would replace the problems of existing practice with two new problems. One is the difficulty of prescribing the right amount of austerity to the debtor as part of the settlement, given that the amount of debt outstanding competes with the macroeconomic need for austerity as a yardstick for gaining concessions. More basic is the familiar problem of moral hazard: Any concession is a reward for testing the limits of prudence, inviting more unstable lending in the future, with greater disruption to world investment. To become a superior alternative to two-party debt adjustments, the three-party approach would have to provide new solutions for these basic problems.

10.4 Summary

A closer look at the history of international lending has furthered our understanding of the debt-crisis dynamic on two fronts. First, the workings of the process in the absence of international agencies like the IMF has been illuminated with historical measures of ex ante and ex post returns. Defaults notwithstanding, investors between 1850 and about 1970 earned sizeable premia on the overall portfolio of loans to the ten top borrowing governments. Chile, Mexico, Russia, and Turkey were exceptions, bringing foreign creditors lower returns than domestic bonds. Since 1974, creditors have received sufficient service that they could now withstand significant partial defaults and still earn the historical premia over lending to their home governments. Countries that had defaulted in the past were significantly more likely to become problem debtors again. Yet defaulting governments have seldom been punished, either with direct sanctions or with discriminatory denial of later credit.

Second, policy options for debt-crisis management can be appraised by contrasting the recent debt negotiations under IMF—World Bank tutelage with the more direct bargaining approach of the bond era. The assistance of the international agencies has raised several problems avoided by the older bilateral mechanism. Partial debt write-downs, imposed by the borrowers with creditor acquiescence, might dominate all other policy options.

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