

NBER WORKING PAPER SERIES

DEFAULT AND RENEGOTIATION OF LATIN AMERICAN
FOREIGN BONDS IN THE INTERWAR PERIOD

Erika Jorgensen

Jeffrey Sachs

Working Paper No. 2636

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
June 1988

Paper prepared for the conference on "A Long-Run Perspective on the Debt Crisis", May 27, 1988 at the Federal Reserve Bank of San Francisco, co-sponsored by the Institute of International Studies and the MacArthur Interdisciplinary Group on International Studies, both at the University of California, Berkeley; the Center for Economic and Monetary Affairs; and the Institute of Governmental Affairs, University of California, Davis. The authors are grateful to Barry Eichengreen and Peter Lindert for advice and comments on earlier drafts. This research is part of NBER's research program in International Studies. Any opinions expressed are those of the authors not those of the National Bureau of Economic Research.

NBER Working Paper #2636
June 1988

DEFAULT AND RENEGOTIATION OF LATIN AMERICAN
FOREIGN BONDS IN THE INTERWAR PERIOD

ABSTRACT

This paper examines the patterns of defaults, renegotiations, and final settlements on foreign borrowing of several Latin American governments in the interwar period. One goal of the paper is to provide a detailed historical account of the borrowing and renegotiation experience of five Latin borrowers (Argentina, Bolivia, Chile, Colombia, and Peru). Another goal is to provide a quantitative assessment of the amount of debt relief that was implicit in the negotiated settlements of the defaults that were reached in the 1930s and 1940s. In general, the pattern of default and renegotiation resulted in substantial, though not complete, debt relief, in the sense of reducing the present value of debt repayments from the sovereign borrower to the bondholders.

Erika Jorgensen
NBER
1050 Massachusetts Avenue
Cambridge, MA 02138

Jeffrey Sachs
Department of Economics
Harvard University
Littauer M-14
Cambridge, MA 02138

A national bankruptcy is by no means illegal, and whether it is immoral or unwise depends altogether upon circumstances. One can hardly ask of the present generation that it alone shall suffer for the folly and waste of its predecessors, for otherwise in the end a country could hardly be inhabited because of the mass of its public debts.

Hugo, Lehrbuch des Naturrechts, (2nd ed. Berlin, 1819), quoted from Edwin Borchard (1951), State Insolvency and Foreign Bondholders, p. 5.

1. Introduction

The Latin American debt crisis of the 1980's has regenerated academic interest in the widespread bond defaults of the 1930's, an experience that seems to parallel recent events. The decade preceding each crisis witnessed a significant increase in lending to developing countries and to Latin America in particular. Repayment difficulties were widespread and triggered mainly by external shocks, including sudden shifts in commodity prices and real interest rates and slump-induced reductions in demand by industrialized countries for developing countries' exports. There were ex post accusations of myopic behavior by international bankers, notably of a relaxation in credit standards, characterized by overly aggressive bond marketing in the 1920's or loan-pushing in the 1970's. When sovereign borrowers reneged on their loan contracts, creditors faced the expensive and time-consuming process of renegotiation.

The differences between these two eras are just as striking. The institutional arrangements of today's capital markets are far more sophisticated than in the 1920's as are the macroeconomic policy tools utilized by governments in the pursuit of stability. The existence of the International Monetary Fund as a referee for the extension of new credit is especially important in creating a cooperative environment for avoiding outright default. In addition, the legal consequences of sovereign default have become

more harsh since the 1930's.¹ Furthermore, private-sector lending to sovereign entities today consists almost exclusively of syndicated bank loans instead of publicly-floated bonds. For bondholders, debt moratorium simply means a capital loss. For the money-center banks, default on sovereign debt could mean failure, with unpredictable consequences on the international economy. Such default, however, may well be less likely than a bond default since potential defaults are more easily rescheduled with fewer creditors at the negotiating table. The difficulty in resolving interwar defaults was a reflection of the myriad of bondholders whose consent was required. Nevertheless, it was this very same dispersion that allowed final settlements to include partial debt forgiveness. Therefore, as an illustration of the process and consequences of negotiation and settlement, albeit in different institutional and legal environments, the interwar defaults of Latin America remain of great interest.

Historical parallels reach back much further than the 1930's. As one of us has written earlier, before the current debt crisis broke out:

The history of international capital movements since at least the early nineteenth century is characterized by large-scale borrowing of developing regions, and large-scale defaults. Many of the same debates over prudential standards, government guarantees of foreign loans, rescheduling of debt, and so forth have been

¹ The sanctions that private creditors can impose on defaulting countries have increased significantly through changes in international law since 1945. Although these legal remedies have not been called upon in the current crisis, they may well serve as another incentive for sovereign borrowers to avoid outright default. See Lewis Alexander (1987).

pursued for one-hundred-fifty years. And even many of the actors remain the same. A number of Latin American countries that are still among the most problematic for foreign loans first entered the London bond market upon independence in 1822-1825, and defaulted soon after, setting in train a hundred years of alternating solvency and default.²

Intermittent bond defaults were a normal cyclical occurrence for Latin America by the late nineteenth century. As a rule, they were rapidly followed by settlement so that parties on both sides could get back to the business of shifting capital from Europe, especially Britain, to the periphery.³ Because these default settlements involved the forced rewriting of loan contracts, some modern observers have suggested that they are directly comparable to today's multilateral reschedulings.⁴ However, such a characterization obscures an essential component of the nineteenth century bond settlements -- substantial debt forgiveness.

In contrast to the nineteenth century pattern, the defaults and subsequent negotiations of the interwar period were greatly disruptive to capital inflows to Latin America, with some bonds evading permanent settlement for decades. The general impression is that penalties for choosing to default in the 1930's were severe. Access to credit was, indeed, limited for decades following the numerous defaults, and capital flows of equivalent

² Sachs (1982), p. 219.

³ See Fishlow (1985) for an excellent history of 19th century lending.

⁴ Nordhaus referred to rescheduling as "partial default under another name". Nordhaus (1986), p. 564.

magnitude to those of the 1920's did not reappear until the 1970's. However, the aftermath of these bond defaults is not well understood. One question is whether exclusion from international borrowing was a consciously-imposed penalty of default or whether the general breakdown of international capital markets accompanying (and somewhat preceding) the defaults of the Depression era, followed by the turmoil of World War II and the emergence of new international financial institutions, created this international capital immobility without discrimination. In an attempt to discover the existence and harshness of penalty imposed on interwar borrowers in Latin American, it seems sensible to start by comparing outcomes for defaulters to those for non-defaulters.

This paper adds to recent investigations of the realized cost of foreign capital to individual sovereign borrowers⁵ in Latin America and assesses the impact on that cost of choosing to default or not to default in the 1930's. A central emphasis of this analysis is the calculation of the extent of debt forgiveness implicit in the sequence of debt moratorium, anonymous buyback of debt at deep discounts, and eventual renegotiation of the bond contracts. Argentina, Bolivia, Chile, Colombia, and Peru were selected as illustrative examples of borrowing behavior. Argentina was one of the few Latin American

⁵ See Eichengreen and Portes (1986), Eichengreen (1987), and Lindert and Morton (1987) for independent investigations of many of these questions, using different samples of countries but generally reaching the same conclusions.

countries in the 1930's which maintained full servicing on its national debt; the other four countries mentioned joined the burgeoning ranks of sovereign defaulters.

By calculating the net present value of the stream of income and repayments on the dollar-denominated external government bonds of these countries, we show that defaulters and non-defaulters in Latin America had very different rates of loan repayment in present value terms. Argentina, the sole non-defaulter in our study, made substantially larger loan repayments in present value terms, but was not rewarded by easier credit access in the postwar period. Furthermore, it appears that interwar defaults, like those of the nineteenth century, resulted in eventual settlements of a concessionary nature which we would characterize as new contracts written to share the burden of the unforeseen contingency that led to default.

Debt relief in present value terms came in three forms: firstly, the debtors anonymously repurchased bonds at deep discounts during default; secondly, the final settlements extended maturities and lowered interest rates; and, thirdly, unpaid interest was never capitalized. However, principal was not cancelled for any of the countries of this study. This kind of relief may well be mutually beneficial to creditors and debtors.⁶ Default did not mean that the countries paid nothing. Many offered partial payments even during default, and after

⁶ See Sachs and Huizinga (1987) for the argument that relief can be mutually beneficial in today's setting.

settlement, the countries resumed payment on a substantial scale. The defaulting countries repaid far less than full present value on their loans but far more than zero.

The next part of this paper provides some descriptive background on interwar lending to Latin America. The third section discusses the subsequent defaults of the 1930's, the extent of buybacks of debt on the open market at deep discounts, and the terms under which final settlements were reached in the following decades. The fourth section presents results on the actual payments made by four Latin American defaulters and one non-defaulter over the lifetime of the relevant loans. The present value of receipts and payments by the country on its national and nationally-guaranteed dollar bonds and the ratio of the present values of payments to principal provide alternative measures of the effective cost of lending from the creditor's point of view and indicate the ex post borrowing terms available to the Latin American states. The fifth section explores the longer term repercussions of default, examining the flows of external finance to these countries in the 1950's and early 1960's when penalties of restricted credit access against defaulters might have been enforced. The final section provides a summary of results and conclusions of relevance to the Latin American debt crisis of the 1980's.

2. Lending in the Interwar Period

Foreign lending to Latin America has a long history as predominantly private funds have been repeatedly channelled into the region in the forms of loans to governments or private enterprise, as well as equity capital. Each episode of substantial capital inflow has displayed a distinctive character but all have included some signs of failure of capital markets, the details of which bear lessons for present experience. The wave of lending through the nineteenth century to the newly-independent Latin American states, mostly by Britain, exhibited a recurring pattern of lending, default, and settlement, with only moderate financial repercussions on the defaulters and, for the latter part of the period, no extended exclusion from international capital flows.⁷

The far shorter and more dramatic period of lending between the world wars witnessed the rise of New York as the dominant financial center and an acceleration of loans to governments in Latin America. Although the value of Latin America's gross external obligations never matched that of North America, Asia or Continental Europe, its debt was highly concentrated in a few countries, especially Argentina and Brazil. Furthermore, Latin America accounted for up to one quarter of new capital issues floated in the United States by foreign entities in the 1920's, borrowing over \$2 billion in bonds on the New York market as well

⁷ Again, see Fishlow (1985).

as accounting for almost half of American direct investment.⁸ When the general speculative surge in financial markets collapsed in 1929, Latin American borrowers were pushed into widespread default as the world economy tumbled into depression. However, it should be remembered that in contrast to Latin American repayment difficulties of the 1980's, Latin American defaults in the interwar period were but a footnote to defaults by larger European borrowers and the breakdown of international markets.

World War I marks a significant break in the previous pattern of international finance. The United States emerged as a net creditor while Britain's lending subsided in response to its declining savings rate. The overall level of international capital flows, however, never recovered to that of its heyday in the period 1870 to 1914; flows of real private investment between 1914 and 1930 were only two-thirds as great as between 1900 and 1913.⁹ Furthermore, during the interwar period, developmental finance for the periphery was overshadowed by lending between the industrialized countries for reconstruction and servicing of war debts.

The lending of the interwar period, primarily in the 1920's, created a new pattern of large capital flows going to sovereign debtors (rather than to the private foreign debtors more important in nineteenth century lending). The new central actor, the United States, responding to the relatively long and

⁸ Madden, Nadler, and Sauvain (1937), pp. 73-4.

⁹ Fishlow (1985), p. 390.

defaultless boom period of the 1920's, provided rapidly rising flows to Latin America, peaking in 1927 and 1928, then dropping off in 1929 as U.S. domestic asset returns peaked, declining sharply as a result of the 1929 stock market crash, and trailing off to zero by 1931.

After the end of World War I, the U.S. had stepped up its investment flows to Latin America in response to improved economic opportunities. Some Latin American countries had used wartime semi-autarky as a chance to expand industrialization. As export prices rose after the war, the borrowers' debt servicing capacity improved. Both the Latin American governments and U.S. investors were eager for foreign investment. Between 1914 and 1919, U.S. investment in Latin America increased by half, and over the next decade, 1919 to 1929, it doubled from its 1919 level.¹⁰ Between 1925 and 1929, net long-run capital flow from the United States was \$200 million per year on average. In real terms, this flow to Latin America probably exceeded the previous levels reached by British capital in the decade preceding World War I, although it should be noted that American lending was a far smaller share of the U.S.'s current account surplus¹¹ and of its income¹² than Britain's in the half century before World War I.¹³

¹⁰ United Nations (1955), p. 14.

¹¹ Ashworth (1952), p. 196.

¹² Fishlow (1985), p. 384.

¹³ United Nations (1955), p. 15.

The principal borrowers in the early 1920's were the national governments of the stronger countries such as Argentina, Brazil, Chile, and Cuba. As the boom in public borrowing in the New York bond market grew over the course of the decade, riskier countries and numerous political subdivisions -- provinces, departments, and municipalities -- also found it possible to sell their bonds to American investors.¹⁴ Between 1920 and 1929, foreign dollar bonds issued by Latin American countries totalled \$2.2 billion of which \$1.3 billion was owed by national governments.¹⁵ However, flotation of securities remained primarily a South American phenomenon (with the exception of Cuba). Venezuela bucked the trend and chose instead to retire all external debt with the aid of petroleum royalties while Mexico and Ecuador were unable to float bonds, suffering from impaired credit standings arising from recent and unsettled defaults. Fourteen Latin American countries did issue dollar bonds by the end of the decade.

These capital flows were equally significant from the perspective of the foreign lending operations of the New York market.¹⁶ Between 1924 and 1928, Latin American security issues

¹⁴ Madden, Nadler, and Sauvain (1937), p. 74.

¹⁵ From United Nations (1955), p. 15, and Foreign Bondholders Protective Council (1934), pp. 102-8, 145-51. For amounts issued by the five Latin American states in this study, see the detailed debt histories in Appendix B.

¹⁶ It should be noted that overseas investment was never as large a share of the capital market in the U.S. as in Britain. In the 1920's, foreign security issues averaged just 14% of all issues in the U.S., hitting a maximum of 18% in 1927, then

constituted 24% of all new foreign bonds in the U.S. market. In addition, 44% of all direct investment between 1925 and 1929 went to Latin America. Meanwhile, other lenders had shifted away from the region. Britain continued to accept new flotations in London, mainly to finance railroads, in the amount of £132 million (\$650 million) between 1924 and 1930, but this gross flow was offset by large amortizations of old bonds and the sale of assets to Latin American nationals.¹⁷ By the end of the decade, Britain and the United States, the two major foreign investors, had together accumulated a stock of investment claims of all types equivalent to four times the value of exports for Latin America as a whole while the ratio of long-term external public debt to exports stood at 1.49.¹⁸ This level of debt burden was not to be reached again until the 1970's but in recent years has been far surpassed. The changing pattern of debt burdens from 1920 to 1945 can be observed in the debt ratios of Table 1. What is most striking is the relatively modest size by today's

falling to 7% in 1929. From Fishlow (1985), p. 424.

¹⁷ United Nations (1955), pp. 14,18. Fishlow (1985), p. 419, quotes a conflicting figure of only £51 million in new capital issues in London for the entire 1920 to 1931 period.

¹⁸ The ratio of the stock of all British and U.S. investments to annual merchandise exports in the late 1920's was:

Argentina	2.8
Bolivia	3.3
Chile	3.9
Colombia	2.4
Peru	2.7

From Diaz-Alejandro (1983), p. 26-27.

Table 1. FOREIGN DEBT STOCKS AND DEBT BURDENS:
1920 TO 1945 (in millions of US\$)

	Exports	Total public debt stock	Debt ratio (in %)	Dollar bond stock	Bond ratio (in %)	Dollar bond interest	Interest ratio (in %)
1920							
Argentina	1013	247	24	0	0	0	0
Bolivia	50	4	8	2	4	0	0
Chile	289	137	48	0	0	0	0
Colombia	69	24	35	0	0	0	0
Peru	172	14	8	0	0	0	0
1925							
Argentina	793	382	48	144	18	6	1
Bolivia	41	32	79	29	70	2	6
Chile	229	152	66	38	17	3	1
Colombia	83	17	21	0	0	0	0
Peru	87	30	34	0	0	0	0
1930							
Argentina	875	402	46	273	31	17	2
Bolivia	26	62	237	59	226	4	17
Chile	277	334	121	264	95	16	6
Colombia	172	75	44	72	42	4	3
Peru	139	106	76	90	65	6	4
1935							
Argentina	501	420	84	237	47	15	3
Bolivia	36	62	172	59	166	4	12
Chile	96	329	343	243	254	15	16
Colombia	70	81	116	65	93	4	6
Peru	75	99	131	83	110	5	7
1940							
Argentina	428	354	83	147	34	6	1
Bolivia	49	61	123	59	120	4	9
Chile	140	288	206	157	112	10	7
Colombia	71	75	106	53	74	3	4
Peru	65	97	150	83	127	5	8
1945							
Argentina	682	159	23	124	18	3	0
Bolivia	80	61	75	59	74	4	5
Chile	205	320	156	140	68	9	4
Colombia	141	87	61	53	37	2	1
Peru	104	96	93	83	80	5	5

Notes:

Exports are current value of goods and services, including gold for Bolivia and Chile.

Ratios are of debt or interest to exports.

Total public debt stock is generally all foreign obligations of the national government, sometimes including short-term debts:

1920 value for Colombia is actually 1922;

1935 values are actually 1936 value for Bolivia and 1937 for Colombia and Peru;

1945 values for Bolivia and Colombia are actually 1944;

Colombia 1935, 1940, and 1945 include interest certificates issued lieu of interest payments for some obligations; 1945 includes 50 non-guaranteed corporate bank bonds taken over by the government in 1942.

Argentina 1940 reflects the redemption of \$81 million of dollar debt in 1936-37, matched by an \$87 million increase in domestic debt; Also in 1945-46, \$140 million of dollar debt was redeemed, financed out of reserves and new domestic debt.

Conversion of debt from NCU to \$ using exchange rates in UNPD:

Argentina: end-of-year rates;

Bolivia: actual conversion rate;

Colombia: for 1920-35, parity rates; for 1940-45, parity rates for bearer bonds and end-of-year rates for other obligations;

Chile: parity rates;

Peru: parity rates.

Dollar bond stock is nationally-guaranteed issues only.

Dollar bond interest is contractual interest owed on outstanding dollar bonds.

Sources:

Exports for 1920-25 from SNP, 1930-45 from SALA v. 20.

Total debt stock from UNPD.

Dollar bond stock from authors' estimates.

standards of both debt stock and debt servicing to exports throughout the period.

During this decade, capital markets became increasingly accessible and generous to Latin American borrowers as the United States, and Britain to a lesser extent, provided substantial long-term funds. As overseas issues crowded the New York market, the issuing houses set up extensive branch networks which successfully marketed the bonds to individual investors, eager for the large premiums they offered over domestic returns. The investment climate seemed much improved over the past, claimed Madden, Nadler, and Sauvain in their 1937 review of America's overseas lending. During previous lending episodes, foreign bond defaults had been numerous and direct investment often generated tension. In the 1920's, virtually no defaults occurred on the over 800 foreign bonds issued in the U.S. nor on non-American lending.

As long as the capital markets of the world were willing to absorb new foreign issues and debtors could continue to borrow, there was no transfer problem, and hence no occasion for suspending external debt service.¹⁹

After the fact of widespread default on these loans, the U.S. Senate inquiry committee of 1932, as well as many contemporary observers, blamed excessive enthusiasm by the American investment houses and accused them of violating the principles of business ethics, utilizing such selling methods as permanently-stationed overseas representatives, deceptive

¹⁹ Madden, Nadler, and Sauvain (1937), p. 108.

prospectuses, and bribery of foreign government officials. Fishlow (1985) believes the real blame lies with a combination of the speculative surge occurring in all U.S. asset markets and the strong competition for overseas loans that New York faced from London, reflected in falling commissions and risk premia as the 1920's progressed.²⁰ Mintz (1951) adds that bond quality deteriorated over the three successively higher waves of financial activity of 1921 to 1929 (as measured ex post by rates of default) but investor confidence grew. The long absence of default encouraged an illusion of safety and ever more optimistic projections by bankers whose techniques of risk analysis were understandably unable to predict a crash.

The average yield to maturity on Latin America's dollar bond issues ranged from 8% in 1921 to 6.3% in 1928, consistently above the yield on U.S. high-grade corporate bonds. In addition, the borrowers paid an average of 4% bankers' commission on top of an average initial sale discount of 3%.²¹ For the five countries of this study, the average yield at time of issue on national and nationally-guaranteed bonds during the 1920's ranged from 6.2% for Argentina to 7.6% for Bolivia.²² The annual average for the five countries together varied from 8 to 99 basis points above the U.S. low-grade (Baa) corporate rate (except for in 1923 and 1924 when only Argentina issued bonds and at rates 99 and 47 points below the Baa rate.) It is interesting to note that risk

²⁰ Fishlow (1985), p. 423.

²¹ United Nations (1955), p. 16.

²² See Table 6.

premia paid by these borrowers did not fall significantly through the decade. In fact, premia over the U.S. Baa rate of yields at date of issue rose up to 1927, then fell slightly from 1927 to 1930 as lending slackened. This pattern is most dramatic for Argentina whose premium rose from 99 basis points below the Baa rate in 1923 to 60 points above in 1927. Only Colombia, borrowing in 1926 to 1928, maintained decreasing premia over all years (from 172 to 116 to 91 extra points).

The rising amounts of sovereign debt claims, a higher proportion of which were short-term and all of which were issued at higher interest rates than pre-war loans, left the borrowing countries heavily dependent on revolving credit and the continuous rollover of debt. The international capital market improved over the course of the 1920's in its ability to funnel investment funds from creditor countries to debtors, but even at the time, there were signs of the precariousness of existing international financial arrangements as compared to those pre-war. The high average rates charged on overseas loans required equivalent returns on actual use of the funds and eventual higher export growth to enable repayment.

3. Default Experience and the Terms of Final Agreements

The business recession beginning in 1929 severely undercut the ability of foreign debtors to provide funds for debt service in their own currency and to transfer those funds into the currencies of their creditors. Both budget and balance-of-payments difficulties arose as export prices as well as volumes began to fall and as the joint effects of protection, depression, and the closing of international capital markets devastated both trade and government revenues (most of which were trade-related taxes such as import duties). The 25% fall in the U.S. price level between 1928 and 1932 was accompanied by a fall in world commodity prices which pushed up the cost of debt servicing in real terms. The 30 to 40% fall in the prices of coffee, of petroleum, of wheat, and of tin, created serious difficulties for Colombia, for Colombia and Peru, for Argentina, and for Bolivia respectively.²² Ratios of public debt service to exports rose

²² Lewis (1938), p. 389.

dramatically for all of these countries in the first few years of the 1930's.²³

More importantly, the collapse of international financial markets eliminated the normal rollover of debt so that debt service obligations exceeded the value of new lending and net capital began to flow out of the region. In addition, during the active lending of the 1920's, many debtor countries came to rely on new external loans to provide foreign exchange to enable them to meet their foreign currency interest payments, supplementing that acquired through export trade.²⁴ The "cross-over point" of annual payment obligations surpassing new investment flows was reached before defaults occurred and so cannot be interpreted simply as a reaction by creditors to unanticipated defaults.²⁵ Instead, the cut-off of new lending may have encouraged debtor

²³ Avramovic (1964), p. 46, provides data on these ratios of public debt service, actual or scheduled (if default occurred), as a proportion of exports:

Year	Argentina	Bolivia	Chile	Colombia	Peru
1926	10.0	7.3	5.5	2.7	2.6
1927	7.9	6.1	8.7	4.4	3.2
1928	8.9	8.5	9.5	8.1	6.0
1929	10.4	7.8	9.2	11.9	7.4
1930	18.2	13.5	18.0	14.0	9.5
1931	22.5	24.5	32.9	15.6	16.3
1932	27.6	50.0	102.6	21.8	21.4
1933	30.2	38.5	81.9	29.6	21.7

Also see Table 1 for other debt burden ratios 1920 to 1945.

²⁴ Madden, Nadler, and Sauvain (1937), p. 110.

²⁵ Eichengreen and Portes (1985), p. 6. See Graphs 1 to 5 for the crossover points for dollar borrowings.

Table 2. Bolivia's History of Borrowing, Default, and Settlement

1917	Republic bond issue of \$2.4 million at 6% due 1940.	1957	June announcement of new plan of service following prolonged negotiations with FBPC.
1922	Republic bond issue of \$29 million at 8% due 1947.	1958	Publication of 1958 Plan with interest at 1%, rising to 3% by 1963. Maturity extended to 1993 and 5% of interest arrears to be capitalized by increasing par value of each \$1000 by \$100. Starting in 1962, to be exchanged for new bonds with sinking fund provisions. FBPC recommended approval. Full interest of 1.5% on all 4 issues.
1927	Republic bond issue of \$14 million at 7% due 1958.	1959	Full interest payments of 1%.
1928	Republic bond issue of \$23 million at 7% due 1969.	1960	Remittances under 1958 Plan cease in July. Full interest of 1.5% paid on 1927 s7. Partial interest of .75% paid on other issues.
1930	Default on sinking fund in December.	1961	July announcement of reduced coupon payments in 1962-63 but assurances of speedy return to compliance. Over 70% of bonds outstanding stamped (accepting 1958 Plan).
1931	Default on interest in January. Partial interest of 2% paid on 1922 s8.	1962	Fail to deliver new bonds. Promise to issue in 1965.
1940	Default on principal of 1917 s6 issue.	1964	Partial interest paid of .75% in 1962 and 1963 and of 1.75% in 1964.
1941	Partial interest of 1% paid on 1922 s8.	1966	Proposal for delivery of new bonds.
1946	Partial interest of .5% paid on 1922 s8.	1969	Began exchange for new issue and resumed adjusted service at 3% but with no provision for any arrears. \$62 million outstanding.
1947	Default on principal of 1922 s8 issue.	1970	Partial interest of 1.1% paid on stamped bonds of all 4 original issues.
1948	Presidential proposal of reduced interest payments at 1%, rising to 3% by 1955. \$100 of interest arrears per \$1000 bond to be capitalized in new bonds. FBPC gives provisional recommendation of approval. Partial interest of .2% paid on 1922 s8.	1985	\$47 million outstanding.
1950	Bolivian Congress approves 1948 debt plan, scheduled to commence in 1951. Never carried out by executive.		
1955	Token interest payment of .5% paid on 1922 s8.		

Table 3. Chile's History of Borrowing, Default, and Settlement

1922	Republic bond issue of \$18 million at 7%.	1934	passed setting aside all government revenues from copper and nitrate industries into Amortization Institute to service foreign debt. Reduced coupon payments to be announced each January, available only to bonds stamped in agreement with the Law. FBPC recommends refusal.
1925	Guaranteed Mortgage Bank issue of \$20 million at 6.5%.		
1926	Republic bond issue of \$42.5 million at 6%. Guaranteed Mortgage Bank issue of \$20 million at 6.75%. Guaranteed Mortgage Bank issue of \$10 million at 6%.	1935	Law 5580 enacted.
1927	Republic bond issue of \$27.5 million at 6%.	1936	Partial interest payments averaging
1928	Republic January bond issue of \$45.9 million at 6%. Republic March bond issue of \$16 million at 6%. Guaranteed Mortgage Bank issue of \$20 million at 6%.	1939	1.25% per annum paid on stamped bonds.
1929	Republic bond issue of \$10 million at 6%. Guaranteed Mortgage Bank issue of \$20 million at 6%.	1940	By January over 80% of national and guaranteed issues are stamped. December decree transfers \$6 million away from debt payment but promises Chile will return to provisions of Law 5580.
1930	Republic bond issue of \$25 million at 6%.	1942	Law 7160 passed, setting extra tax on copper companies, depleting funds available for debt servicing.
1931	Default begins in August with failure to pay on interest and sinking fund for Republic 1927 6s issue. Other issues follow in turn.	1948	Law 8962 replaces Law 5580, providing an issue of 1948 New Bonds with 46-year maturity to consolidate all dollar bond issues by exchange at par. Interest to be at 1.5% in 1948, rising to 3% by 1954. All payments under Law 5580 to be available as 10-year scrip. FBPC recommends acceptance.
1932	Non-guaranteed municipal dollar bonds default.		
1934	Resumption of service on trade obligations. In October, Law 5580		

Table 4. Colombia's History of Borrowing, Default, and Settlement

1926	Agricultural Mortgage Bank issues nationally-guaranteed \$3 million at 7%.	1941	Decree 1388 offers settlement plan for Republic issues. Old issues to be exchanged at par for new 3% bonds due 1970 with convertible certificates for half of interest arrears from 1935-59. FBPC recommended refusal.
1927	Republic issues \$25 million at 6%. Mortgage Bank issues \$3 million at 7% and \$5 million at 6%.	1942	Redeemed New Bonds offered out in exchange for Mortgage Bank issues under same conditions except only 20% of arrears covered and to non-guaranteed mortgage bond issues for 75% of face value and no allowance for interest arrears. Government reported that half of all mortgage bonds were repurchased during default.
1928	Republic issues \$35 million at 6%. Mortgage Bank issues \$5 million at 6%.	1944	Same offer extended to a municipal issue, again using redeemed New Bonds and with all past interest cancelled. Government reported 60% of issue had been repurchased. Another municipal issue reached independent settlement.
1931	Some non-guaranteed municipal and departmental issues default.	1945	Only 10% of Republic issues remain unexchanged.
1932	More municipal and departmental issues default. Mortgage Bank issues default on sinking fund.	1949	Departmental and other municipal issues settled by exchange at 120% of face value for a new nationally-guaranteed 3% issue. Government reported almost 50% of these issues had been repurchased.
1933	Mortgage Bank issues default on interest. Republic issues default on both.		
1934	Two coupons on 1927 6s and one on 1928 6s paid 1/3 cash (giving 2% and 1% payments) and 2/3 scrip (redeemed for cash in 1937).		
1936	Payments of full annual interest on Republic issues in 4% scrip (redeemed in 1946).		
1940	Payments of half of annual interest on Republic issues upon surrender of both coupons. Government turned in \$6 million in bonds purchased in the market since 1933.		

Table 5. Peru's History of Borrowing, Default, and Settlement

1927	Republic issues \$15 million at 7% and \$50 million at 6%. Province of Callao issues nationally-guaranteed \$1.5 million at 7.5%.	1945	settlement with interest at 1%, rising to 3% by 1950, sinking fund payments at .5% per annum, and all arrears to be cancelled.
1928	Republic issues \$25 million at 6%. City of Lima issues non-guaranteed \$3 million at 6.5%.	1947	Law 10832 authorized government to resume payment on dollar and sterling bonds by issuing Series Exchange Bonds due 1997, one series for each of the Republic and Callao issues and one for two sterling issues, paying interest of 1% for 1947-48, 2.5% thereafter. All arrears to be cancelled. FBPC recommended refusal.
1931	Republic issues default on both interest and sinking fund payments.	1951	New plan announced. As of 1953, a new set of Exchange Bonds due 1997 to replace 1947 Series for Republic and Callao and providing new series for Lima issue, all paying 3% interest and with non-interest-bearing scrip for 10% of arrears of 1931-46.
1932	Provincial and municipal issues default.	1954	1951 offer extended to 1947 Series for sterling bonds.
1936	Government includes budget item for debt service at .5% but funds not transferred to fiscal agent.		
1937	Payment of partial interest on Republic issues of .5%.		
1940	Settlement reached on short-term dollar credits with payment of all arrears and interest reduced from 6% to 2%.		
1941	FBPC takes over negotiations (upon disbandment of rival bondholders' committee). Peru offers settlement on "Mexican basis" of one Peruvian sol per dollar.		
1945	Bill introduced to Congress but never passed proposing		

countries to consider defaulting since a crucial part of the penalty of default is the refusal of further credit.²⁶ These countries were left with greatly increased burdens of debt but severely reduced means of payment and no available instrument for international settlement through negotiation to substitute for default.

The first default was by Bolivia in January of 1931, after its failure to meet sinking fund payments in December of 1930.²⁷ When payments stopped, the U.S. fiscal agent for the issue (who cashed the bond's coupons as they came due with funds provided by the debtor) then declared it to be in default and the bond contracts to be broken. Peru followed suit soon after in April as did Peruvian provincial and municipal governments. Chile succumbed to the combined pressures of revolution and a severe slump in the nitrate and copper industries in August, breaking its long record of compliance with external obligations. The government imposed exchange restrictions preventing the transfer of funds abroad, forcing the default of Chilean non-national debt as well. All three of these countries defaulted following political upheaval and the institution of revolutionary governments who tended to place a low priority on the maintenance of a good credit standing. Once the ice was broken, however, defaults by other Latin American countries (and by European

²⁶ See Sachs (1982).

²⁷ See Tables 2 to 5 for summaries of the debt histories of the defaulting countries of this study.

borrowers) followed in rapid succession. By 1934, only Argentina, Haiti, and the Dominican Republic, out of all the Latin American states, had not suspended normal debt servicing.²⁸

Default was made easier by its very commonness. The failure of the entire system went far beyond the capacity of individual bankers to ameliorate, and none tried . . . Capital markets were essentially closed to long-term movements and only functioned to sustain short-term flight to the United States, providing little incentive for conformity with the rules.²⁹

The loan contracts of the defaulted bond issues technically guaranteed against loss of principal or interest, usually by pledging the 'good faith and credit' of the government as well as by the common inclusion of a security clause assigning specific government revenues or properties³⁰ to the fulfillment of the stipulated servicing. However, when defaults occurred, it turned out that these guarantees were meaningless. The relevant assets were rarely within reach of the creditors. Bondholders were faced with the difficult problem of a sovereign debtor, with the

²⁸ And even in Argentina, some non-national dollar bonds went into default for a brief period. It is sometimes argued that the readjustment of inter-ally debts and reparations payments in the 1920's for the former creditors to the world, Britain, France, and Germany, set a tempting example for the periphery, and in combination with the derogation of the gold clause by Britain in 1931 and the U.S. in 1933, succeeded in undermining Latin American belief in the sanctity of contracts. From Wallich (1943), p. 322.

²⁹ Fishlow (1985), p. 429.

³⁰ Revenues from natural resources or domestic monopolies such as railroads or the tobacco industry and properties such as bullion or commodities were popular backing assets. For example, Peru's nineteenth century loans were secured on its valuable guano deposits while a 1922 British loan to Brazil was backed by coffee. From Borchard (1951), Part II, Sec. VII.

rights and powers of a state, unable to be sued without its consent, and over whom foreign creditors had negligible legal influence. The United States government refused to employ economic sanctions or to claim redress on behalf of its nationals, leaving bondholders with only negotiation through privately-formed committees as a means of arranging resumption of payments.³¹

Furthermore, defaulting countries gained the advantages of being able to write off part of their debt through favorable readjustment plans in the future as well as the possibility of substantial buybacks of debt at a considerable discount since the uncertainty of default depressed bond prices by 75% or more.³² The debtor would repurchase its own bonds in the open market at a price less than 100, a procedure sometimes allowed under the original bond contract. For example, of the 36 bonds considered in this study, 23 of the contracts allowed such redemptions at market prices. After default, with those contracts broken, countries engaged in this practice whether previously allowed or not.

Table 6 summarizes the experience of the five debtors during default, presenting estimates of buybacks at deeply-discounted prices in the period between the original abrogation of the bond contracts and the date of final and binding settlement. Peru was

³¹ Borchard (1951), Part I, Sec. 1 and Part II, Sec. VII.

³² The market price on Bolivian bonds dropped to 3 cents on the dollar in 1939.

Table 6. NATIONAL AND NATIONALLY-GUARANTEED DOLLAR BONDS
ISSUED IN THE 1920's: BUYBACKS DURING DEFAULT

Country	Value of bonds issued [Principal received]	Years issued [Interest rate; Baa premium]	Amount outstanding at default [Year of default; of final settlement]	Amount bought during default [Average price]	As % of outstanding at default
Argentina 10 issues	\$290 M all nat'l [\$269 M]	1923-28 [6.16% ; -4]			
Bolivia 4 issues	\$68 M all nat'l [\$63 M]	1917-28 [7.55% ; +304]	\$59 M [1931; 1969]	\$3 M [16]	5%
Chile 12 issues	\$275 M 185 nat'l 90 guar. [\$255 M]	1922-30 [6.58% ; +159]	\$261 M [1931 ; 1948]	\$46 M [59]	18%
Colombia 6 issues	\$76 M 60 nat'l. 16 guar. [\$69 M]	1926-28 [6.55% ; +94]	\$64 M [1932; 1941]	\$14 M [22] \$8 M nat'l [18]; \$7 M guar. [27].	22% 15% of nat'l 53% of guar.
Peru 4 issues	\$92 M 90 nat'l 2 guar. [\$79 M]	1927-28 [6.77% ; +129]	\$88 M [1931; 1953]	\$27 M [21] of which \$12 M from original issues [19]; \$15 M from 1947 Exchange Bonds	31% of which 14% from original issues repurchased 1931-46 17% from 1947 Exchange Bonds repurchased 1947-52

Notes:

nat'l - bonds issued by the national government;

guar. - bonds guaranteed by the national government.

interest rate - average of yields to maturity at issue dates weighted by principal issued.

Baa premium - average premium over the U.S. Baa corporate rate in basis points in years of issue.

Bolivia had buybacks in 1957 only.

Colombia defaulted on sinking fund payments of its guaranteed issues in 1932, on interest payments of these issues in 1933, and on sinking fund and interest payments of its national issues in 1933. Final settlement was reached on its national issues in 1941 and on the guaranteed issues in 1942. As a result, its buybacks include the years 1933 through 1940 for its national issues (with the addition of \$14,500 retired in 1941) and the years 1931 through 1941 for its guaranteed issues.

Sources:

FBPC (various vols.); authors' estimates.

most active in this process, purchasing 31% of the principal outstanding at default at an average price of 21 cents on the dollar. About one-fourth of these buybacks occurred in the early years of default, but most took place in the late 1940's during the period of its unilateral offer to bondholders (at an average price of 22 cents). Colombia repurchased a smaller percentage but over a shorter period and is the only country directly accused by the Council of encouraging a low market price for its debt for the purpose of discounted redemption.³³ Chile too bought back a significant amount of its debt, with about one-third occurring in the first few years of default. The Chilean government's sense of timing must have been less keen than that of Peru or Colombia because the effective discount was only 41%. The same might be said of Bolivia's government who failed to take advantage of the shockingly low prices to which their debt sank in the 1930's, repurchasing almost none. The net effect of this generally unobserved and uncontrollable activity on the part of debtors was to lighten the burden of debt before or during negotiations on adjusted service.³⁴

Argentina stands out as the only major Latin American debtor to abide by its original bond agreements and continue full service on its national debt. Carlos Díaz-Alejandro (1983)

³³ See Appendix B.4. Colombia's Debt History for details.

³⁴ Argentina's bond contracts allowed repurchases through the sinking fund at market price. Between 1931 and 1936, it purchased a modest 15%, all through normal sinking fund payments, at an average price of 73.

argues that Argentina chose not to default on its bonds because of the over-riding importance of its export dependency on Britain whose financial institutions used their considerable political clout to force an agreement upon Argentina. The notorious Roca-Runciman Treaty of 1933 provided limited guarantees for Argentine exports in return for onerous concessions including continued debt service payments. The government must have believed that any tampering with debt service was sure to be commercially and politically costly. But it seems that continued servicing also had high political costs. The external economic pressures on Argentina were "additional causes of xenophobic antagonisms toward the very visible control that foreigners held over vital segments of the national economy,"³⁵ antagonisms which were crucial in the subsequent rise of Peron.³⁶

By the late 1930's, many countries' ability to service their debt had markedly improved. Many governments had made unilateral offers of readjusted service which, depending on their terms, a number of bondholders had accepted. Such acceptance gained the creditor some immediate coupon payments but at the risk of nullifying the original legal commitment and lessening

³⁵ Mallon and Sourrouille (1975), p. 7.

³⁶ Ibid.

pressure on the borrower.³⁷ Bondholders indicated their approval of the new contract for repayment and the dissolution of the old by having their bonds stamped appropriately by the fiscal agent who would mark them as assenting or by exchanging the old bond certificates for new ones with the amended servicing obligations. Payments on coupons would then begin according to the new contract. Most of these offers were adhered to by the debtors (who had, after all, dictated their terms). However, even unilateral offers could break down.³⁸

With the added advantage of having bought back some portion of their outstanding debt at well below par in foreign markets, the Latin American defaulters became disposed to negotiate a formal settlement (to replace the often confusing series of unilateral offers) with Britain's Corporation of Foreign Bondholders (established in 1868) or the United States' new Foreign Bondholders Protective Council (established in 1933), both private bondholders' committees. Readjustments were not negotiated by the issuing houses involved because of potential conflict of interest. Instead, the two private committees emerged. Britain's Corporation was an experienced and respected

³⁷ Colombia's unilateral offer of 1941, rejected by the Council, was never superceded by another agreement. Insufficient pressure by the bondholders, most of whom accepted the offer from the start, or anyone else, left the Republic with no incentive to increase servicing.

³⁸ In 1940, Chile regretfully admitted that it had reneged on the terms of its 1935 offer by diverting funds away from promised payments but continued to do so at an increasing rate, adding to the pressure for it to make a new offer of servicing.

institution by the interwar period while the U.S.'s Council served to replace a long series of ad hoc and sometimes competing bondholders' negotiating committees.³⁹ - However, "in the absence of the lure of future capital flows (and the threat of their blockage) the power of the U.S. Bondholders Protective Council was nil,"⁴⁰ claims Fishlow (1985). Perhaps as a result of this limited bargaining power, discussions with debtors tended to revolve around the debtor's "capacity to pay", a phrase signifying the appropriate degree of debt forgiveness since the result was generally the consolidation and extension of existing debt with significant reductions in interest and extensions of maturities with some modicum of recognition paid to interest arrears. After a readjustment plan was agreed upon by both debtor government and bondholders' committee, bondholders were individually free to accept or reject the settlement, but once the committee accepted a plan and ceased negotiating, further concessions from the debtor became unlikely.

In some cases, outside inducements assisted the negotiating process. In the post-1945 period, the new International Bank for Reconstruction and Development would not lend to countries in default, a policy which in the immediate postwar years hit Latin America hardest. Chile had made a unilateral and ungenerous offer to holders of its defaulted issues in 1935, but then failed to uphold even its undemanding terms, to the continuing dismay of

³⁹ Eichengreen and Portes (1985), pp. 27-29.

⁴⁰ Fishlow (1985), p. 429.

the U.S. Council. It was not until Chile made an application for a \$40 million loan from the IBRD in 1946 that it saw fit to renegotiate a more lasting debt readjustment plan. The Bank's policy on outstanding default was to take the country's attitude into consideration but not to play an intermediary role nor to disqualify the borrower.⁴¹ Nevertheless, its pressure on Chile to settle with its bondholders was sufficient to elicit a new plan in 1948 which the U.S. Council could see fit to recommend. The day after Chile announced its settlement, the IBRD announced its approval of a \$16 million loan to Chile. The Chilean settlement provided new 46-year bonds in exchange for national, Mortgage Bank, and municipal external bonds. Interest arrears were to be compensated as arranged under the earlier plan which had provided variable annual payments averaging 20% of the past interest due since 1935 (with no capitalization). Current and future interest, originally contracted at 6 to 7%, would be paid at a rate of 1.5% in 1948, rising to 3% in 1954. By comparison, the yield on U.S. Baa corporate bonds in 1948 was 3.47%. Most of the old bonds had been due in the early 1960's so the adjustment of maturity to 1993 represented a thirty-year extension.

The terms of individual agreements varied but in general, the ones that lasted were the result of negotiations with the bondholder organizations and provided interest rate reductions ranging from 50 to 70% of the original rate (leaving a new rate of 3% in most cases) and extensions of maturities by twenty to

⁴¹ Mason and Asher (1973), pp. 155-8.

thirty years. In general, a partial payment for unpaid interest was offered, summed without capitalization, often in the form of extra bonds. Chile, Colombia, and Peru achieved settlements of this type in 1948, in 1941, and 1953 respectively. The maturity of Peru's debt was stretched out to 50 years while Colombia's was only 30 years. Chile's settlement included payment of about 12% of its unpaid interest since default, Colombia's included about 20%, and Peru's included about 15%. In 1958, after many failed attempts, Bolivia reached a more forgiving arrangement, involving a 35-year extension of maturity, a 3% interest rate, and provisions to pay less than 8% of accumulated unpaid interest.

It is interesting to note that the longer a debtor held out, the better it fared in the conditions of settlement. Colombia settled unilaterally but early and so paid more. Overall, the level of debt forgiveness involved in these settlements was clearly substantial. The yield on U.S. Baa corporate bonds ranged from 4.3% in 1941 to 3.5% in 1948 to 3.7% in 1953 and 4.7% in 1958.⁴² Thus, the new contracts for the defaulting countries provided finance at less than the U.S. Baa market yield whereas the original contracts yielded consistently more than these rates.

The final settlements achieved by these interwar defaulting debtors, after long and tangled negotiations and many false starts, can be characterized as containing a realistic element of debt forgiveness. With an acceptable agreement in hand, countries could return to paths of growth and development

⁴² From Banking and Monetary Statistics (1943).

unhindered by an excessive overhang of debt. By 1945, the ratio of the stock of public external debt to yearly exports for Latin America as a whole had declined substantially to .77⁴³, benefitting from the combined effects of the recovery of international trade and the widespread practice of repurchasing bonds below par.

4. Estimating the Extent of Default and Debt Forgiveness

In this section, we estimate the extent to which the debtor countries reduced the burden of debt servicing via suspension of debt payments and renegotiation of debt contracts. To measure the extent to which debtors escaped the burden of debt servicing, we calculate the present value of the borrowing and net repayments of bonds issued in the 1920's and 1930's for several Latin American countries. This measure is calculated using all of the long-term nationally-guaranteed bond debt issued in dollars and outstanding through the 1930's for five Latin American countries: Argentina, Bolivia, Chile, Colombia, and Peru. A comparison of these measures for defaulters and non-

⁴³ Diaz-Alejandro (1983), pp. 27-28.

More specifically, from Table 1, the ratio of the stock of public external debt to exports in 1945 was:

Argentina	23%
Bolivia	75%
Chile	156%
Colombia	61%
Peru	93%.

defaulters will indicate the effective level of debt forgiveness inherent in the process of default and settlement as well as the direct ex post benefits of choosing default.⁴⁴

All nationally-guaranteed dollar bonds issued after 1920 were included,⁴⁵ each issue being tracked from the date of issue until redemption (or 1980). Dollar debt in the form of bonds constitutes the majority of public debt for all of these countries, and the debt of the central or national governments is usually the dominant component of total foreign debt.

Dominick and Dominick, a New York investment house, published a compilation of all foreign loans issued in the United States and still outstanding in 1936. These listings provided information on principal amount, issue price, and contract provisions for the sinking fund. The bonds were then followed from year to year, using a variety of sources⁴⁶ to obtain data on prices, amount of the principal outstanding at year's end,

⁴⁴ Other authors have calculated similar measures for other samples of bonds. Eichengreen and Portes (1986) use a basket of 33 dollar bonds issued in the 1920's by foreign governments or with government guarantees and estimate the realized rate of return to lenders to be 3.25%. They do not consider the impact of discounted buybacks. Lindert and Morton (1987) track all bonds issued by ten governments from 1850 to 1970, including Argentina and Chile. They calculate a number of summary measures in both real and nominal terms, finding that bondholders received a positive return premium of .44% overall and of 1.21% for bonds issued from 1915 to 1945.

⁴⁵ A Bolivian issue of 1917 with 23-year maturity was included because it marks the first of Bolivia's small borrowings in the New York market.

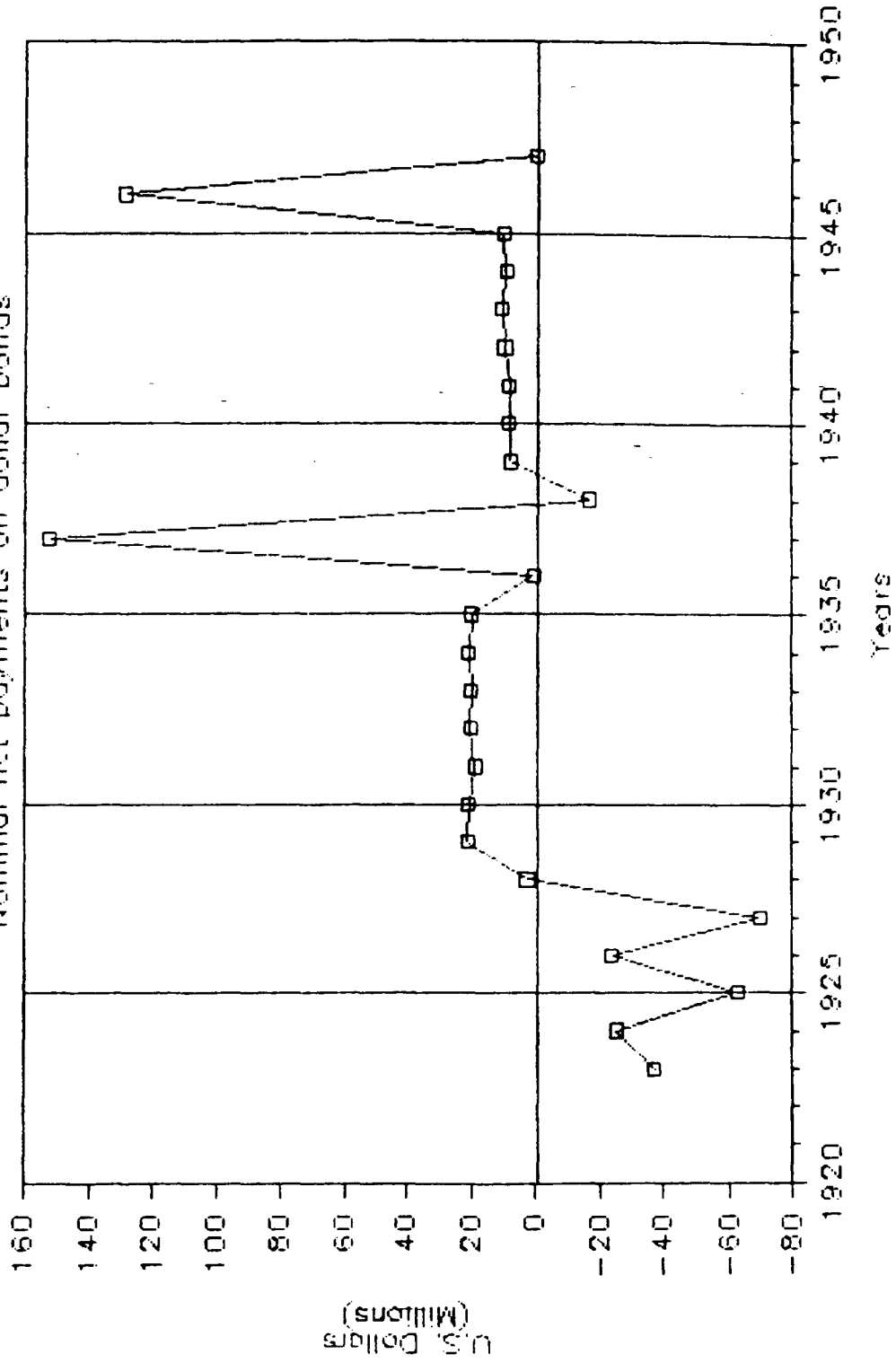
⁴⁶ The main sources used were the annual Report of the Foreign Bondholders Protective Council and the monthly Bank and Quotations Record.

interruptions of contractual payments on interest or principal, and the conditions of subsequent resumption of servicing. In all, the bonds followed consisted of fourteen Argentine bonds on which no default occurred and four Bolivian, twelve Chilean, six Colombian, and four Peruvian issues, all of which experienced default, as well as the exchange bonds offered by each defaulting country as part of its default settlement.

For each bond, information on market prices, on contractual interest obligations, and on amounts outstanding for each year was combined to generate estimates of annual payments of interest and principal. We assume that principal payments were made at market prices when sinking funds allowed repurchase at prices below par or when unrecorded buybacks occurred. Information on the extent and terms of debt buybacks is problematic only for the first few years after the onset of default. Almost all of the original contracts allowed repurchases at market value, and prior to default, all repurchases were reported in a timely fashion to the fiscal agents. Buybacks during the period of default did not get reported at all to either the Council or the agent until settlement negotiations began and then only intermittently until a final settlement was reached and relations normalized. All of these countries initiated negotiations soon after default at which time total repurchases during the preceding period were confessed. The gap in reporting rarely exceeds three or four years. Equal repurchasings during each year were assumed if no other indication was available. Adjustments were also made when

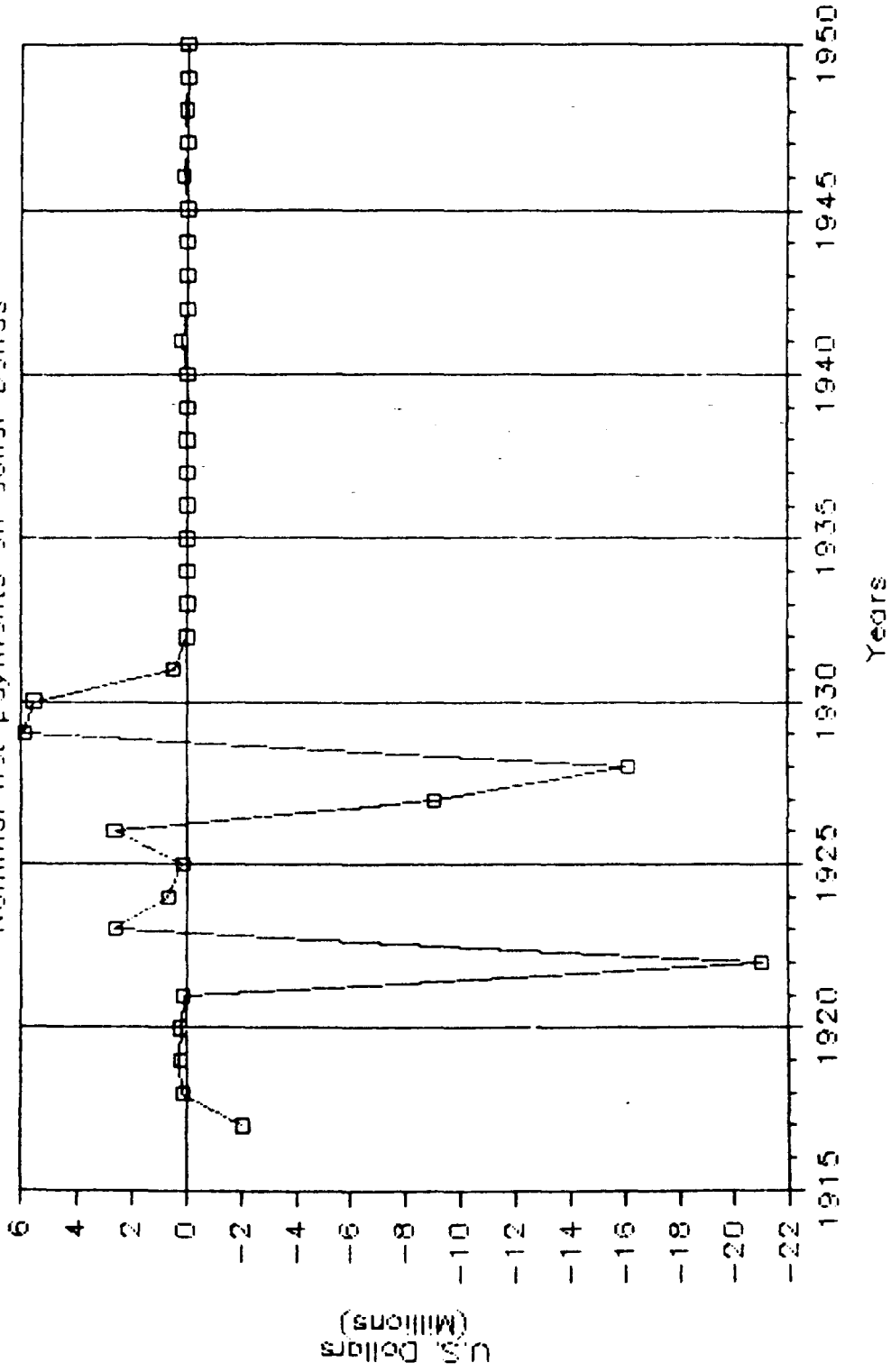
Graph 1. ARGENTINA

Nominal net payments on dollar bonds



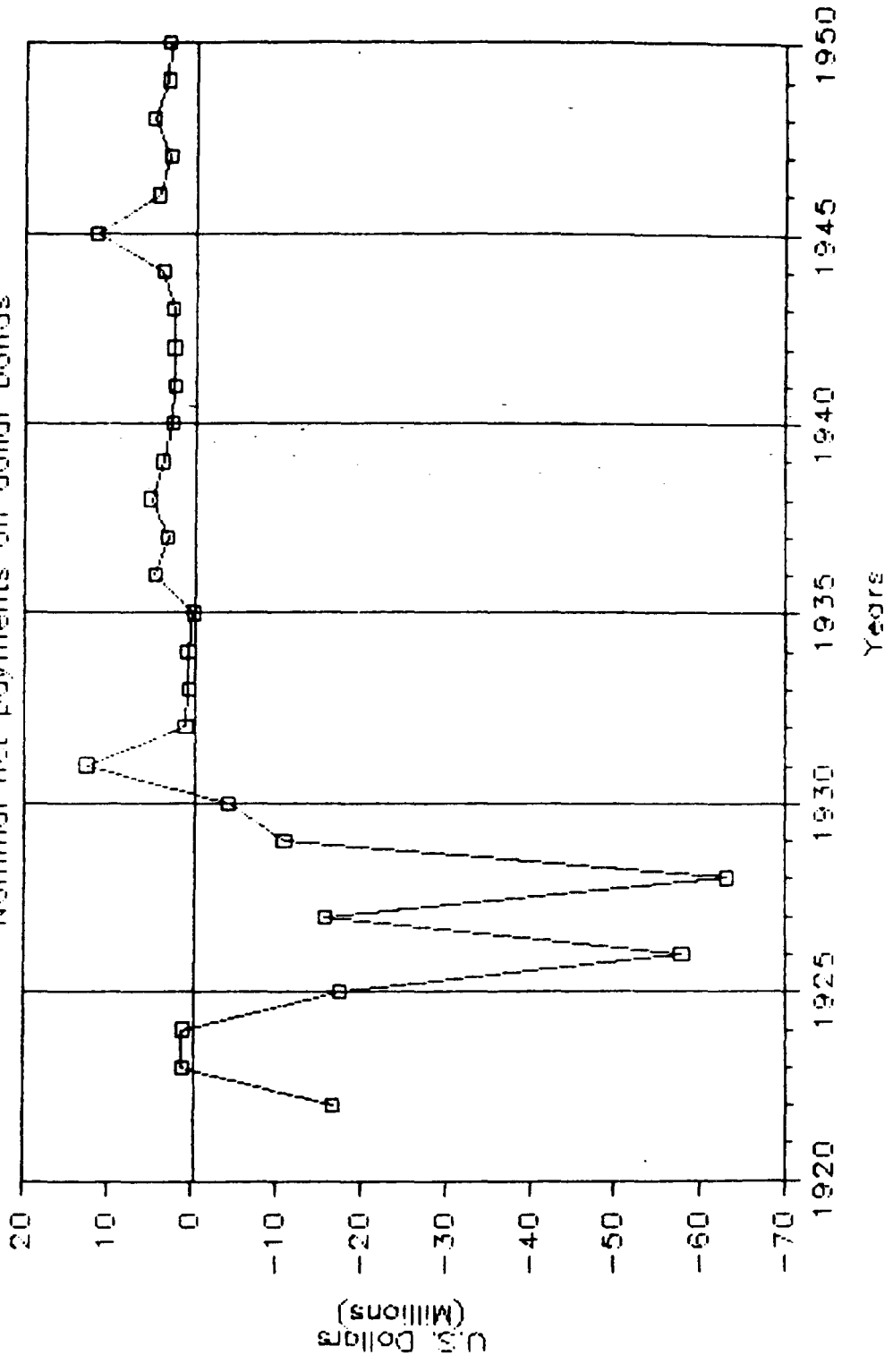
Graph 2. BOLIVIA

Nominal net payments on dollar bonds



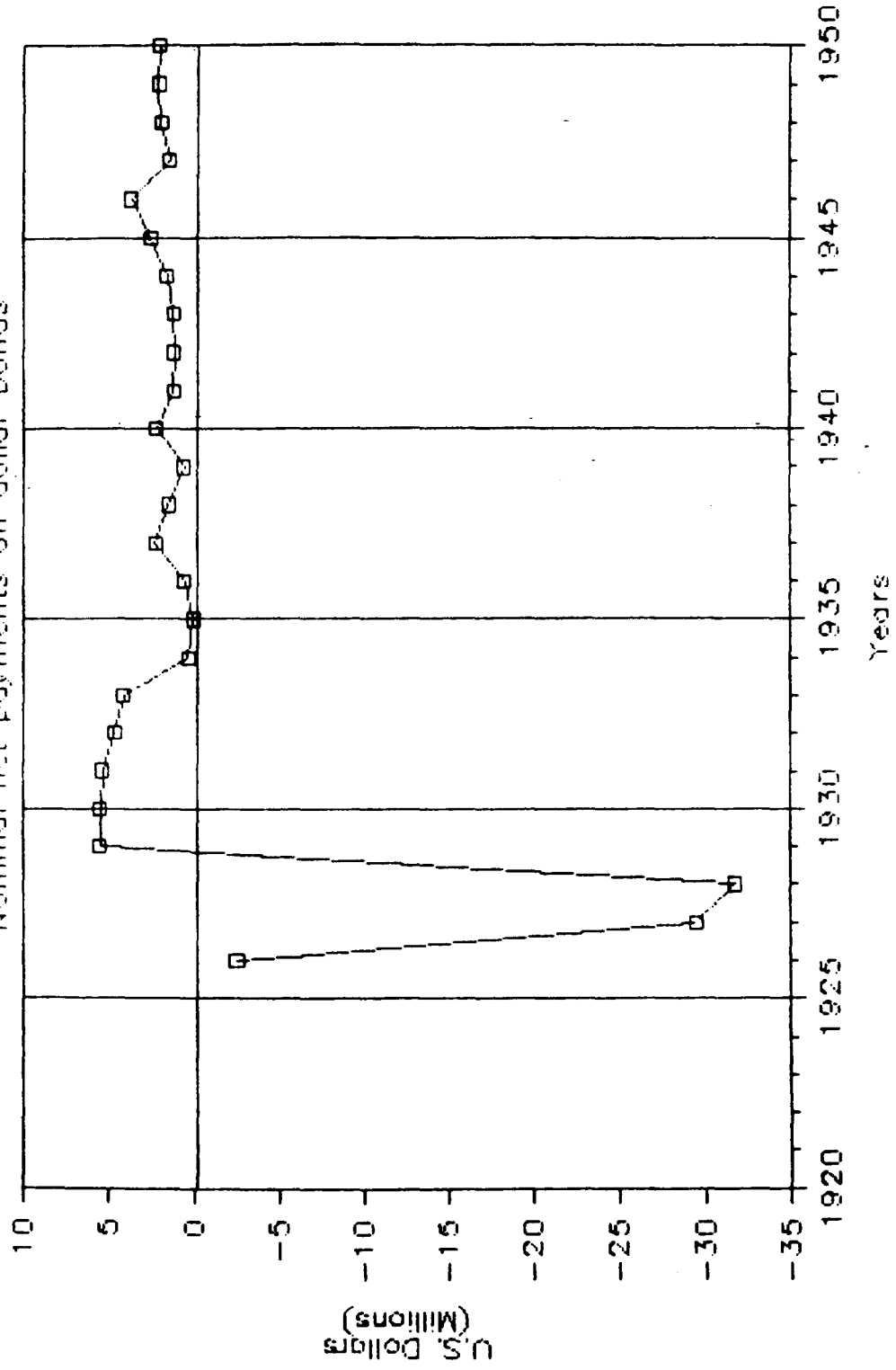
Graph 3. CHILE

Normal net payments on dollar bonds



Graph 4. COLOMBIA

Nominal net payments on dollar bonds



Graph 5. PERU

Nominal net payments on dollar bonds

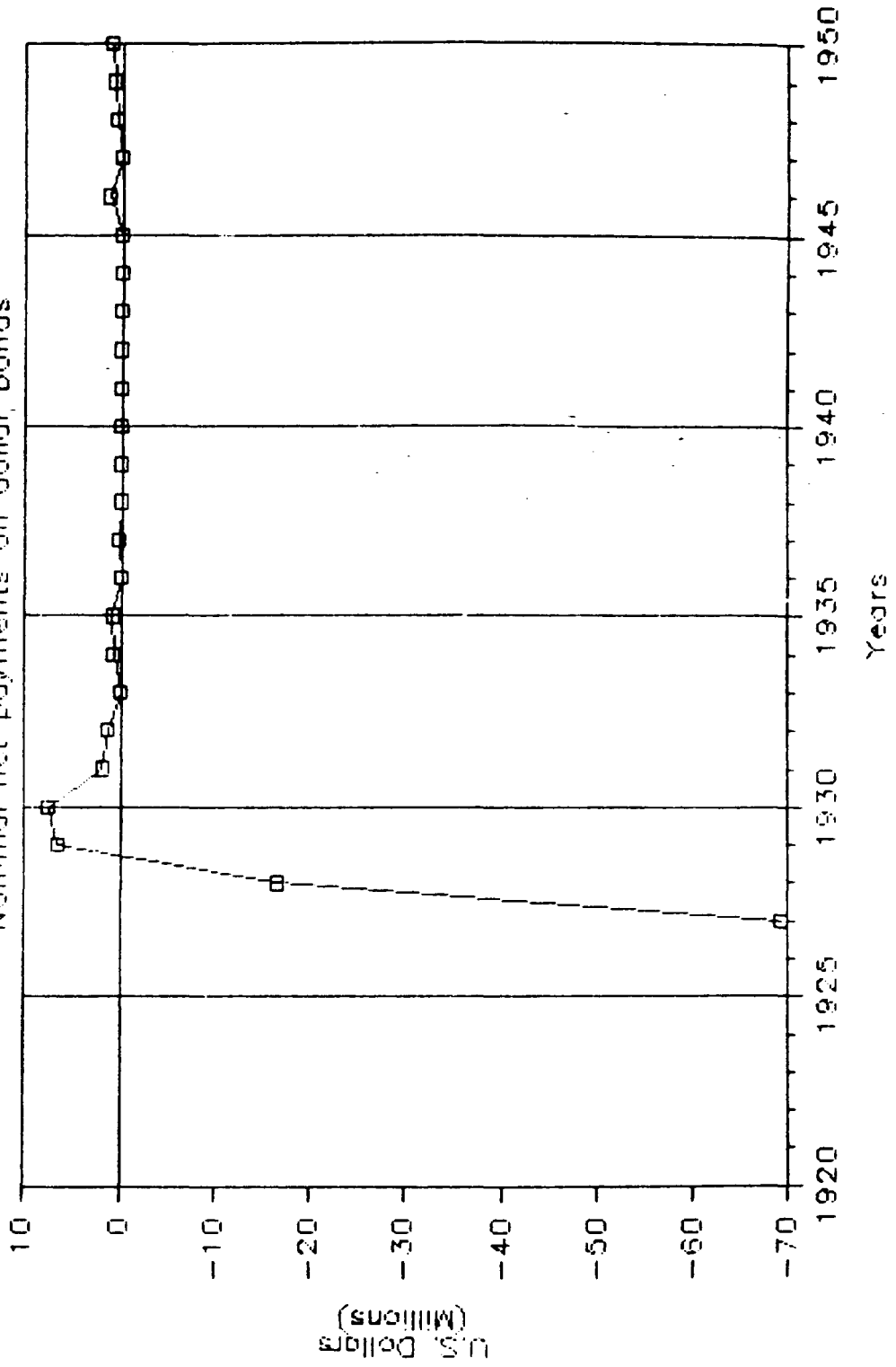


Table 7.

SUMMARY OF RESULTS
(all in present values)

	Total borrowings (millions \$)	Total repayments (millions \$)	Net present value (millions \$)	Present value ratio
Argentina	258.59	323.12	64.53	1.25
Bolivia	49.13	26.32	-22.81	0.54
Chile	178.12	99.25	-78.87	0.56
Colombia	46.59	39.74	-6.85	0.85
Peru	54.45	28.08	-26.37	0.52

	Principal outstanding at default (millions \$)	Repayment after default (millions \$)	Present value ratio post-default
Bolivia	59.42	4.63	0.08
Chile	260.73	80.39	0.31
Colombia	65.53	41.19	0.63
Peru	88.36	34.38	0.39

Notes:

Results are based on national and nationally-guaranteed bonds.
The base years for present value calculations are 1920 for totals
and 1931 for post-default amounts.
The discount rate used is the yield to maturity on U.S. long
government bonds.
Borrowings are actual principal received.
Repayments are actual payments on interest and principal
received by the bond trustees.
The present value ratio is the ratio of repayments to borrowings,
both discounted to 1920.
Default occurred in 1932 for Colombia and in 1931 for other defaulters.
The present value ratio post-default is the ratio of repayments after
default to principal outstanding at default, both discounted to 1931.

there were service provisions for stamped (indicating acceptance of revised contractual obligations) as well as unstamped bonds, using reported information on acceptances.

The payments for all bonds in each year were summed so that national totals could be calculated. The pattern of receipts and payments for each country are displayed in Graphs 1 to 5. Present values of the payments were calculated using a risk-free discount rate, the yield to maturity on U.S. government bonds of comparable length.⁴⁷ This discounting evaluates the yield on issues from the investor's point of view, assuming that investors chose Latin American government bonds as long-term holdings. Finally, the resulting present values of borrowings, payments, and net payments and the ratio of payments to principal were calculated as summary measures. The ratio of repayments to debt flotations can exceed 1.0 if the debt is mostly repaid and at coupon rates in excess of the U.S. government rate. The ratio will be less than 1.0 if the risk premium on coupon rates was insufficient to compensate for the non-payments of interest and principal and for the buybacks at discounted prices.

As can be seen from Table 7, Argentina paid an enormous sum in present value terms for the monies it borrowed abroad. Its stream of payments on interest and principal turned positive in 1928 and remained so except for 1937 when a new credit influx pushed it negative again. (See Graph 1.) The present value ratio of payments to principal reveals that when adjusted to

⁴⁷ See Table A.11 in the appendices.

present values, Argentina paid out 1.25 times what it received. The other debtors appear to have done very well in their dealings with international capital markets. The net present values of their dollar bonds to investors are definitively negative, and their present value ratios are well below unity. By borrowing heavily in the 1920's and then defaulting, these countries spread out their repayments over a much longer period of time than Argentina who repaid promptly. (See Graphs 2 to 5.) Chile, the biggest borrower after Argentina, achieved effective debt forgiveness of almost 50%. Peru, the most successful defaulter as measured by present value ratios, repaid just over half of principal in present value terms, although on substantially smaller total borrowings than Chile. Bolivia, essentially renegeing on its debt obligations for over thirty years, gained forgiveness equivalent to Chile's for the moderate sums it managed to borrow in the 1920's. Colombia, on the other hand, defaulted completely on its obligations for a very short time (actually paying no interest for only three years) and quickly made a unilateral offer to settle, giving its debt a small negative net present value and leaving its present value ratio substantially higher than the other three defaulters although still well below unity. These levels of debt forgiveness were indeed an outcome of post-default behavior, as is made clear by the bottom half of Table 7.

Naturally, the defaulting countries display present value ratios substantially lower for the stream of payments after

default than those over the entire lives of the bonds. Consequently, although principal was never forgiven for any of these countries, cancellation of unpaid interest and buybacks at less than par had an equivalent effect. But it is also important to note that the present value ratios are substantially above zero, indicating that much of the debt was indeed repaid despite lengthy periods of default.

Thus, default resulted in substantial debt relief in the longer run, ranging from 15% to 48%. This relief was not completely intended but was the joint product of unobservable debtor activity (in redeeming bonds at below par) and the limited negotiating power of the Foreign Bondholders' Protective Council. It was not that the Council was oblivious to behavior such as debt buybacks but rather that it had no choice but to accept the inevitable. These countries had defaulted and reasonable settlements according to capacity to pay needed to be arranged.

5. The Repercussions of Default in the 1940's and 1950's

Argentina paid dramatically more for the foreign capital it had borrowed in the 1920's than did the four defaulters. Were there offsetting advantages that accrued to Argentina in future decades? One legacy of the 1930's defaults was sharply restricted access by all developing countries to international capital markets until the late 1960's. However, Argentina managed to secure credit for refunding purposes and one new loan

Table 8. SUMMARY OF EXTERNAL FINANCE RATIOS: 1950 to 1964
(in %)

Fifteen-year averages of ratios of various categories of
external finance to exports:

	Government	Private	Official Transfers	Total
Argentina	-0.473	5.0085	0.0431	9.1614
Bolivia	1.6654	2.8509	22.046	36.502
Chile	4.0817	2.7391	1.8566	13.792
Colombia	2.4770	3.7858	0.5367	8.0554
Peru	1.4958	5.9489	1.0589	15.685

Table 8. (cont.) SUMMARY OF EXTERNAL FINANCE RATIOS: 1950 to 1964
(in %)

Ratios of five-year averages of various categories of external
finance to five-year average of exports:

	Government			Private		
	1950-54	1955-59	1960-64	1950-54	1955-59	1960-64
Argentina	-0.477	-4.727	3.5105	1.3695	6.0492	6.6369
Bolivia	1.9406	-3.777	11.145	-0.446	1.6698	7.3441
Chile	1.0719	0.0706	10.895	-1.435	-0.232	9.5820
Colombia	2.6878	-0.204	4.9753	3.6588	-2.537	11.367
Peru	1.0223	3.3736	0.3252	1.0677	9.8948	6.7967

Table 8. (cont.) SUMMARY OF EXTERNAL FINANCE RATIOS: 1950 to 1964
(in %)

Ratios of five-year averages of various categories of external
finance to five-year average of exports:

	Official Transfers			Total		
	1950-54	1955-59	1960-64	1950-54	1955-59	1960-64
Argentina	0	0.0107	0.1227	1.2279	7.5454	17.235
Bolivia	4.2605	32.028	26.945	5.9781	43.662	57.150
Chile	0.1818	2.8681	2.2941	4.0053	10.624	25.478
Colombia	0.0492	0.2256	1.3258	6.8498	-2.067	21.015
Peru	1.0677	9.8948	6.7967	13.570	25.932	8.3252

Notes:

Exports are of goods and services.

Government external finance includes local and central government
nonmonetary assets and liabilities.

Private external finance includes long and short term assets and
liabilities.

Total external finance is the sum of government and private external
finance, official transfers and net direct investment.

All data taken from Tables A.1. to A.10.

through the issuance of dollar bonds in the late 1930's. The government retired all \$246 million of its national bonds in 1937 with the issuance of \$129 million of 35-year external conversion bonds and substantial domestic debt. In 1938, an additional \$25 million 10-year bond was floated.⁴⁸ The risk premium was slightly lower than for its earlier loans, but a conversion loan is inherently less risky. The new issues yielded an average 4.7% when the U.S. rate on Baa corporate bonds hovered around 5.2%. (Earlier borrowing had yielded 6.2%, approximately equal to the Baa rate over that period.) Thus, Argentina's good behavior did seem to earn it some return in easier credit access during the 1930's when capital markets were closed to most Latin American countries. However, such credit access was short-lived and was ostensibly provided merely to insure repayment of earlier bonds. Argentina, as will be seen below, received no special treatment after this episode in the late 1930's. (See Table 8.)

In the period 1930 to 1945, a number of Latin American governments were repatriating, and thereby significantly reducing, both foreign debt and equity claims. By 1945, a large portion of the external debt of Latin American countries had been repurchased in the open market, often at prices dramatically below par. Meanwhile, Argentina was repurchasing at close to

⁴⁸ See Appendix B for details of Argentina's debt history.

par⁴⁹ and redeeming at par a good part of its external debt, causing its stock of public external debt to drop by 55% between 1940 and 1945. In addition, the Chilean and Colombian governments took over some of the bonds of non-national entities as part of default settlement plans in the early 1940's, causing their stocks of public external debt to rise. (See Table 1.) For dollar bonds specifically, between 1930 and 1945, the value of all Latin American issues outstanding dropped by almost 40%.⁵⁰

In the late 1940's and the 1950's, net flows of external finance switched direction and became positive again. In these years, private capital flows to Latin America were much higher than official government flows and predominantly took the form of direct investment. International financial and money markets had not yet recovered from the 1930's so the only indirect investment was a modest and erratic flow of suppliers' credits. As late as 1960, Latin America owed half of its total stock of debt to suppliers.⁵¹ Direct investment, on the other hand, was somewhat larger, undertaken mostly by U.S. enterprises through the reinvestment of earnings, starting off in the petroleum industry, then increasingly spreading to manufacturing and the extraction

⁴⁹ The prices of Argentine issues never fell much below 75 after 1935, leaving the government unable to reduce its debt at the hefty discount available to defaulters and seemingly unwilling to take advantage of what discount there was. Perhaps such behavior, although technically allowed under the bond contracts, would have threatened the conversion bonds.

⁵⁰ See Table A.13 in the Appendices.

⁵¹ Griffith-Jones (1984), pp. 26-29.

of other minerals. The net inflow of private capital, direct and indirect, averaged \$740 million per annum for 1950 to 1956. However, for 1954 to 1956, prompted by economic and political instability in the region, private long-term capital flowed out at an estimated rate of \$40 million per annum. In 1957, sufficient change had occurred to draw this speculative flow inward again and at a level twice that for the early 1950's.⁵²

Official flows from the U.S. Export-Import Bank and IBRD provided some additional capital through the 1950's. Of the five countries of this study, Chile and Argentina benefitted most from Export-Import credits, granted for the purposes of financing commercial arrears on imports from the U.S. as well as for infrastructure projects, while Chile and Colombia received the bulk of IBRD funds to this group, the funds being directed towards the expansion of electric power and transportation facilities.⁵³ However, both private and official external finance remained at relatively low levels and varied substantially from year to year in response to political as much as economic events.

The flows of external finance to each of the five countries over the whole period of 1950 to 1964 are summarized in Table 8. These trends are of direct relevance to the analysis of the cost of default to the borrowing countries because it was not until the 1950's that the world had recovered from depression and a

⁵² Pan-American Union (1958), pp. 85-90.

⁵³ See Table A.14 of the appendices.

second world war. Although flows of international capital are modest in this decade, the supposed penalty for defaulting must have been paid then, if at all.⁵⁴ Therefore, it is of interest to note that as a percentage of exports, the defaulters managed to obtain equivalent or larger capital flows than Argentina.

Over the period of 1950 to 1964, all five countries experienced rising flows of external finance as shown in Table 8 (broken down into categories of government sector, private sector, official transfers, and a composite including the previous categories and direct investment). Argentina does compare favorably with the other four countries in its ratio of private finance to exports. It achieved reschedulings which consolidated short-term obligations into longer term debt both in 1956 after the overthrow of the Peron regime and again in 1959-60, the latter assistance package constituting its first significant postwar inflow of capital. Chile received slightly more government finance over the period than the others because of higher inflows in the early 1960's (partly bilateral refinancing and partly loans for earthquake reconstruction). It is rather amusing that Bolivia, the worst behaved of the five in terms of timely settlement of default, not reaching a lasting agreement until 1958, displays the highest ratio of external finance to exports (although only because of official transfers)

⁵⁴ See Eichengreen (1987) for some econometric tests of this hypothesis.

It is difficult to argue that any particular trend inevitably emerges from perusal of this data.⁵⁵ Not only must the accuracy of capital flow information for this period be somewhat suspect, especially given the existence of conflicting estimates from different sources, but the modest size of the flows and their high variability preclude any strong conclusions. As different categories of external finance waxed and waned over the period, switching the total flow from negative to positive and back again, trends are possible to identify only through the use of multi-year averaging. These switches can in many instances be explained by particular political events, e.g., a new American foreign policy or the overthrow of a regime unfriendly to foreign capital. Nevertheless, it can be said that Argentina, having conscientiously retained its creditworthiness by honoring its debt service obligations, did not receive noticeably better treatment in the 1950's in return for its admirable behavior in the previous two decades. Any lasting effect of reputation formed on the basis of behavior in the 1930's was an incidental factor in determining access to foreign capital in the 1950's.

⁵⁵ In a similar vein, Eichengreen (1987) fails to find evidence that default in the interwar years affected the ability to borrow in the period 1945 to 1955 from cross-section regressions of all external debts of governments for 32 countries in 1955 and regressions of private portfolio lending for 18 Latin American countries for 1946 to 1955.

6. Conclusions

The defaults of the 1930's present lessons for contemporary experience because these countries actually ceased payment on their foreign debts and these defaults were acknowledged, accepted, and eventually negotiated on favorable terms to the debtors. Examining the consequences of defaults that emanated from an era with so many similarities to the present provides, at the least, some interesting commentary on policies being advocated today for Latin American debtors.

From the borrower's perspective, the costs of default involve both a direct component of actual payments made on existing debts and an indirect component of reputational effects on future access to credit. On the basis of the five countries studied here, it seems that both of these costs were low, so low as to be negative. The empirical results on actual payments over the life of all of each country's dollar bonds indicate the level of debt forgiveness that occurred. That relief was substantial, if the basis for comparison is the experience of Argentina, the single country that did not default. The debt burden of the defaulting countries was lightened not only by liberal final agreements with bondholders but also by the debtors' practice of secretly entering the bond market and buying their debt at deep discounts during default. It also seems that the costs of default in terms of future external financial flows were negligible. When the countries returned to international capital

markets in the 1950's, no apparent systematic difference between the defaulters and the non-defaulter emerges, the patterns being dominated by other factors. This result is consistent with findings in Eichengreen (1987) and Lindert and Morton (1987).

The terms of the final agreements settling the defaults of the 1930's were highly favorable to debtors and, contrary to current rescheduling practices, involved a sharing of losses. The unpaid interest during the period of default was summed without capitalization and added to the total stock of principal due. The resulting total was consolidated into a new bond issue with a maturity of 30 to 50 years. Full present values were not demanded, and there was little fastidiousness about interest arrears. Maturities were extended to concessionary lengths while interest rates were reduced below yields available on comparably risky assets. These deals were struck with realism, as fair compromises between creditors and debtors coping with the aftermath of severe unforeseen external shocks which rendered the debtors' abrogation of contracts excusable.⁴⁵

Fishlow (1985) describes nineteenth-century lending to Latin America as a process of default-induced disruption of capital flows followed by timely settlements allowing the resumption of lending for development purposes. By comparison, it seems then that the trouble with the interwar period was not default per se but the general breakdown of trading and capital flows which

⁴⁵ See Grossman and Van Huyck (1985) for a formal model of excusable default.

removed incentives for rapid adjustment of servicing. Henry Wallich (1943) observed that debt forgiveness was both desirable and necessary to relieve the overhang of Latin American debt and improve the prospects of a return of international capital flows to the region. Thus, a possible lesson of the tumultuous interwar experience is that there may be potential gains to creditor and debtor from negotiating reasonable default settlements and the debtor's reentry to the international system more quickly.

Changes in the regulatory, legal, and political environment have led to a different outcome so far in the 1980's. No debt forgiveness has yet been granted, partly because the U.S. serves as the contract enforcer that was lacking in the 1930's. As a result, it is quite possible that today's process of settlement through temporary reschedulings has been to the detriment of debtors and creditors and that the failure to reach realistic settlements in the timely manner of the 19th century may instead recreate much of the pain of the interwar period.

REFERENCES

- Alexander, Lewis (1987), "Three Essays on Sovereign Default and International Lending, unpublished PhD dissertation, Yale University.
- Ashworth, William (1952), A Short History of the International Economy, London: Longmans, Green, & Co.
- Avramovic, Dragoslav, et. al. (1964), Economic Growth and External Debt, Baltimore: International Bank for Reconstruction and Development, John Hopkins Press.
- Bernstein, Martin (1966), Foreign Investment in Latin America, New York: Alfred A. Knopf.
- Bitterman, Henry (1973), The Refunding of International Debt, Durham, North Carolina: Duke University Press.
- Borchard, Edwin (1951), State Insolvency and Foreign Bondholders, New Haven: Yale University Press.
- Diaz-Alejandro, Carlos (1983), "Stories of the 1930's for the 1980's," in P. Armella, R. Dornbusch, and M. Obstfeld, eds., Financial Policies and the World Capital Market, Chicago: University of Chicago Press.
- Eichengreen, Barry (1987), "Til Debt Do Us Part: The U.S. Capital Market and Foreign Lending, 1920-1955," National Bureau of Economic Research Working Paper No. 2394, October.
- Eichengreen, Barry, and Richard Portes (1986), "Debt and Default in the 1930's: Causes and Consequences," Harvard Institute of Economic Research Discussion Paper No. 1186.
- Fishlow, Albert (1985), "Lessons from the Past: Capital Markets during the 19th Century and the Interwar Period," International Organization 39:3, pp. 383-439.
- Foreign Bondholders Protective Council (various years), Annual Report, New York: Foreign Bondholders Protective Council.
- Griffith-Jones, Stephany (1984), International Finance and Latin America, New York: St. Martins Press.
- Grossman, Herschel and John Van Huyck (1985), "Sovereign Debt as a Contingent Claim: Excusable Default, Repudiation, and Reputation", National Bureau of Economic Research Working Paper No. 1673.

REFERENCES (continued)

- Lewis, Cleona (1938), America's Stake in International Investments, Washington, D.C.: The Brookings Institution.
- Lindert, Peter, and Peter Morton (1987), "How Sovereign Debt Has Worked", in Jeffrey Sachs, ed., Foreign Debt and Economic Performance: Special Topics, Chicago: University of Chicago Press, forthcoming 1988.
- Madden, John, M. Nadler, and H. Sauvain (1937), America's Experience as a Creditor Nation, New York: Prentice-Hall, Inc.
- Mallon, Richard and J.V. Sourrouille (1975), Economic Policymaking in a Conflict Society, Cambridge: Harvard University Press.
- Mason, Edward and Robert Asher (1973), The World Bank Since Bretton Woods, Washington, D.C.: The Brookings Institution.
- Mintz, Ilse (1951), Deterioration in the Quality of Foreign Bonds Issued in the United States, 1920-1930, New York: National Bureau of Economic Research.
- Nordhaus, William (1986), "Comments on Cohen and Sachs", European Economic Review 30, pp. 561-564.
- Pan-American Union, Inter-American Economic and Social Council (1958), Financing of Economic Development in Latin America, Washington, D.C.: Pan-American Union.
- Sachs, Jeffrey (1982), "LDC Debt in the 1980's: Risk and Reforms", in Paul Wachtel, Crises in the Economic and Financial Structure, Lexington, Mass.: Lexington Books.
- Sachs, Jeffrey (1986), "The Debt Overhang of the Developing Countries", Harvard University, mimeo.
- Sachs, Jeffrey, and Harry Huizinga (1987), "U.S. Commercial Banks and the Developing-Country Debt Crisis," Brookings Papers on Economic Activity, 2.
- Wallich, H. C. (1943), "The Future of Latin American Dollar Bonds," American Economic Review 33, pp. 321-335.
- United Nations, Department of Economic and Social Affairs (1955), Foreign Capital in Latin America, New York: United Nations, Department of Economic and Social Affairs.

Appendix B. Country Debt Histories

This appendix provides more detailed histories of debt for each of the five countries. These descriptions are drawn primarily from FBPC Annual Reports, notes in the IMF Balance of Payments Yearbooks, and Bitterman (1973).

B.1. Argentina's Debt History

Between 1923 and 1928, 289.8 million of dollar bonds were publicly offered by the Republic of Argentina of which nine issues were contracted at 6% and one of \$20 million at 5.5%. Of the ten issues, all allowed retirement through purchases at market prices and further allowed the government to increase these sinking fund payments (the total to be spent in principal payments each year) at will.

Argentina's aggregate demand faced severe deflationary pressure in the early 1930's because of the fall in export demand. Surprisingly, Argentina achieved a shallower post-1929 decline than the United States through a combination of relatively loose monetary and fiscal policies and the suspension of convertibility to gold in 1929. However, total debt service payments by the government, mainly to foreigners, occupied an increasing share of the budget, rising to 28% of government expenditures in 1933.¹ Nevertheless, the Argentine government

¹ Diaz-Alejandro (1983), p. 20.

resisted pressures to default, preserving full payments of interest and principal despite the lack of new loans in the early 1930's.

Diaz-Alejandro (1983) attributes this good behavior to the monopsony power of Britain over Argentine exports. The Roca-Runciman Treaty of 1933, the formal expression of this influence, guaranteed that

the United Kingdom ... will not impose any restriction on the imports of chilled beef into the United Kingdom from Argentina ... below the quantity imported in ... 1932, unless ... it appears to the Government to be necessary in order to secure a remunerative level of prices. . . [In exchange for which] Whenever any system of exchange control is in operation in Argentina, ... there shall be available, for the purpose of meeting applications for current remittances from Argentina to the United Kingdom, the full amount of sterling exchange arising from the sale of Argentine products in the United Kingdom ...²

The treaty also provided for moderate sterling and Swiss Franc loans to Argentina. Most importantly, the enforcement incentive spilled over into continued payments by Argentina on its dollar bonds as well.

Full service was maintained on all of Argentina's national bonds throughout their history, but both provincial and municipal dollar bonds did experience interruptions in payments which were soon readjusted. Between 1925 and 1930, Argentina's provinces borrowed \$103 million in bonds of which some underwent default in 1932 and 1933. Adjustments involving exchange bonds at lower interest rates but covering all of the original principal and

² Articles I and II, Roca-Runciman Treaty (1933).

uncapitalized interest arrears were reached in 1935 to 1938, with the remaining few settled in 1941. Municipalities also borrowed in this period, totalling \$28 million in bonds between 1924 and 1928 and defaulting on some in 1932 and 1933. Agreements were reached in 1938 to redeem some issues early with all interest paid, in 1939 to exchange some for new bonds, and in 1942 to redeem some at par with full interest.

The outstanding balances of \$246 million on Argentina's ten national issues were retired in 1936 and 1937, funded partially from the proceeds of a new loan of \$128.5 million of 35-year Conversion Dollar Bonds carrying interest at 4.5% and 4% (yielding 4.6%) and partially by the issuance of domestic debt. In 1938, another new loan of \$25 million at 4.5% (yielding 5.1%) was issued to pay for property acquired by the City of Buenos Aires and for a national public works program. As the Foreign Bondholders Protective Council was happy to point out,

The Argentine Government, unique in Latin America as the only Government which has met throughout the depression full service on its bonds, was again able this year to profit by this enviable record by raising another loan on this market.³

However, the bulk of these new bonds merely replaced older issues rather than bringing a new net flow of capital into the country although the lower interest rates of 1936 to 1938 enabled Argentina to trade 6% bonds for 4% or 4.5% new issues with extended maturities.

³ Foreign Bondholders Protective Council (1938), p. 12.

Argentina's payment patterns for the years 1936 and 1937, when redeeming all outstanding dollar bonds while issuing a much lesser amount of new dollar debt appear extreme unless all debt, internal as well as external, is considered. (See Graph 1.) Between 1936 and 1937, funded (long-term) dollar debt fell by \$80.7 million and total national foreign debt (including non-dollar and short-term obligations) fell by \$91.5 million (mostly because of a decline in short-term loans). However, domestic debt over this period rose by \$86.6 million, due primarily to an increase in domestic long-term debt, part of a continuing pattern of steadily rising internal debt over the years 1936 to 1940. Thus, the dramatic jump in net payments on dollar bonds was offset by changes in domestic borrowing.

Between 1946 and 1949, under Argentina's new 1946 policy to convert external debt to internal debt, the government used reserves earned from export surpluses during World War II to pay off its foreign debt and to repurchase its railroads from British investors. All national dollar bonds were called in for redemption. It also required its provinces and cities to repatriate as much of their foreign debt as bore interest greater than the rate fixed for Argentine domestic securities. All outstanding provincial and municipal dollar debt was redeemed as a result.

Again, the payments pattern illustrated in Graph 1 require explanation. During 1946, funded dollar debt fell from \$139.5 million to zero while total national foreign debt fell from

\$159.0 million to \$34.1 million (including the redemption of the 60.2 million Swiss Franc loan of 1933). Total debt service was not as burdensome as these large external principal payments seem to indicate because of the government's spending of the dollar balances it had earned during World War II from export surpluses as well as the steady rise of domestic debt (as in the 1930's).

This policy of conversion of foreign debt extended to non-dollar issues as well. In 1946, Argentina redeemed all of its Roca Agreement Swiss Franc Loan of 1933, having already called its loans in gold pesos in 1934, those in lire in 1938, and those in pesetas in 1942. By the end of 1949, it had retired all national obligations payable in sterling except for one Roca Agreement Loan of 1933, of which £4.2 million remained. Argentina contracted no further long-term debt in the form of dollar bonds issued in the U.S. market.

By 1950, Argentina had accumulated large arrears on commercial debts to U.S. suppliers and banks, having used up all of its reserves earned in wartime to redeem external long-term debt and purchase foreign-owned assets, especially the British-owned railroads, as well as covering postwar trade deficits. In 1950, the U.S. Export-Import Bank provided a loan of \$96.5 million at 3.5% to a consortium of Argentinian banks, guaranteed by the central bank, to assist in the liquidation of these arrears on private and public short-term dollar debt to U.S. commercial creditors. However, in 1956, after the overthrow of the Peron regime, refunding was again necessary to consolidate

\$353 million of trade-related debt with Europe, resulting in the establishment of the Paris Club in May of that year.

In 1959, Argentina received its first significant inflow of capital in the postwar period, in the form of credits to assist stabilization. The IMF provided \$100 million on standby, a consortium of nine U.S. banks provided \$75 million to finance arrears, and 54 European banks supplied matching funds, conditional on the IMF standby which required Argentina to unify its exchange rate. In 1962-63, at which point Argentina had \$2649 million outstanding of funded external public debt (mostly medium-term supplier credits), the servicing of which took up about 25% of exports, another refunding was achieved with the help of the IMF, the U.S. Treasury and U.S. AID in exchange for instituting anti-inflationary policies and devaluing the exchange rate.

B.2. Bolivia's Debt History

Between 1917 and 1928, Bolivia publicly offered four issues of dollar bonds totalling \$68.4 million at 6%, 7%, and 8%. All four issues allowed retirement through purchase at market prices with sinking fund payments set by the bond contract. Unable to negotiate short-term loans from American banks in 1930 to postpone debt-servicing pressures, Bolivia defaulted on its interest payments in January of 1931 (having defaulted on sinking fund payments in December of 1930) and then, in 1940 and 1947, on

the principal of its 6% and 8% loans respectively. Only \$3 million was repatriated during the default period, 1931 to 1969, at discounts of over 80%. Nevertheless, by 1944 unpaid interest (of \$60 million) just exceeded principal outstanding (of \$59 million).

In June of 1948, a presidential announcement proposed a plan of reduced interest payments starting at 1% and rising to 3% by 1955, with past interest compromised by the issuance of a new \$100 bond for each \$1000 outstanding to cover 18 years of arrears. Bolivia had amassed \$78 million of arrears of which this scheme would capitalize 7%. However, the Bolivian Congress failed to approve this proposal (as well as the national budget) before retiring for the year. Subsequent general political turmoil, including a new president in 1949, delayed passage of the debt plan until 1950. This plan was never executed due to procrastination by the executive in the interim, followed by a military coup in May of 1951, and then the new presidency of Paz Estenssoro in April of 1952.

In June of 1957, the terms of a new plan of service were announced for Bolivia's four defaulted dollar bonds, of which \$56 million remained outstanding in public hands. Published in June of 1958, this 1958 Plan proposed that each \$1000 bond be stamped to indicate a new par value of \$1100, the additional amount being in full payment of unpaid interest to the first coupon date in 1957 and constituting about 5% of the accumulated arrears. Interest payments on the new par value, beginning in the second

half of 1957 would be made at 1% through 1959, at 1.5% for 1960 and 1961, at 2% for 1962 and the first half of 1963, and at 3% for the second half of 1963 and thereafter to maturity in 1993. Beginning in 1962, the stamped bonds were to be exchanged for new dollar bonds which would be provided with a cumulative sinking fund, of 1.5% per annum for 1962 through 1966 and 1% thereafter, to retire the bonds through purchases in the market or through drawings by lot at par. The offer remained open for acceptance through 1964, then was extended to 1969. From 1958 to 1964, any bond stamped received all interest paid since 1958. Because the Bolivian government was undertaking a comprehensive monetary and economic stabilization program involving extensive reforms of government fiscal policy, the U.S. Foreign Bondholders' Protective Council recommended acceptance of this settlement plan. By December of 1961, over 70% of outstanding bonds had been stamped, indicating bondholders' approval of the 1958 Plan.

Interest was paid according to the 1958 offer from 1958 through the first coupon date of 1960. However, in July of 1960, remittances ceased. In December of 1961, the government announced one coupon payment of \$8.25 per \$1100 bond, i.e., available to stamped bonds only, for each of the years 1962 and 1963, an effective interest rate of .75%, but promised two coupon payments in 1964 (and did pay a 1.75% rate) and indicated its intention to return to full compliance with the 1958 Plan as soon as possible. The November 1964 military coup caused some delay in providing the promised new bonds, and so in March of 1966, a

new proposal for delivery of these bonds was announced, but again a long delay ensued during which economic conditions worsened. In 1969, negotiations were finally completed under which Bolivia resumed adjusted service on its 61.9 million of outstanding dollar bonds, paying 3½ interest with no allowances for arrears. As of December of 1985, \$47.1 million remain outstanding although none have been traded since 1982.

Although Bolivia remained in default for almost 30 years, it did receive some new capital flows after the 1930's. (See Tables A.3 and A.4.) The U.S. Export-Import Bank extended credits of \$15.5 million in 1942, \$16 million in 1949, and \$2.4 million in 1955. In 1953, the U.S. and Bolivia struck an agreement on economic assistance to provide agricultural commodities and to promote mineral exports. In addition, the U.S. government gave Bolivia grants totalling \$21 million over the period 1946-54. In 1956, the IMF provided a stand-by agreement for \$7.5 million (of which \$4 million was drawn) and, with the U.S. government, three lines of credit totalling \$25 million to form an exchange stabilization fund in return for which Bolivia adopted fiscal and trade policy reforms. Continued default did render Bolivia ineligible for IBRD developmental loans in the 1950's even though it was a member of the Bank.

B.3. Chile's Debt History

Between 1922 and 1930, Chile issued dollar bonds totalling \$297 million of which \$185 million were national debt (seven issues at 6 to 7%), \$90 million were nationally-guaranteed corporate debt (five issues at 6 to 6.75%), and \$21 million were non-guaranteed municipal debt (three issues at 7%). Three of the national issues allowed retirement at market prices, of which two also allowed the government to increase sinking fund payments at will. The remaining four Republic issues and all five guaranteed issues allowed redemption only through drawings at par, although sinking fund payments could be increased.

Chile reacted to the initial shock of world depression as did Argentina by expanding government spending. However, amidst political turmoil, its short-lived socialist government of 1931 to 1932 eagerly increased the government budget without the restraint shown by Argentina. A growing fiscal deficit only worsened the burden of debt servicing rose as government revenues continued to decline. The government concluded that it was necessary to suspend external debt service and imposed exchange restrictions to force default on non-national issues as well.

Interest and sinking fund payments were defaulted for each national or nationally-guaranteed bond in turn as semi-annual payments came due, starting in August 1931 until January 1932, at which time \$261 million of these dollar bonds remained

outstanding. The municipal issues similarly defaulted, between November 1931 and March of 1932 (with \$20 million outstanding from original principal of \$21 million).

In 1934, the Foreign Bondholders' Protective Council protested Chile's arrangements to serve its short-term obligations and to extend its trade commitments to the U.S., both of which would absorb foreign exchange, without considering servicing on its defaulted long-term debt. In October of the same year, the government passed Law 5580, to take effect in January of 1935, which stipulated that revenues from the income tax paid by copper companies and from government profits from the nitrate industry would be turned over to the Amortization Institute which would use half as interest and half as amortization payments on all outstanding foreign (including non-dollar) debt, no other funds to be provided for its servicing. This plan offered reduced coupon payments to be announced in January of each year and available only to bondholders who had their bonds stamped in agreement with the provisions of the Law. The Law also set up provisions for a sinking fund for redemption of the bonds by direct purchase below par in the market or by drawings at par. (Nine out of the twelve national and guaranteed issues did not allow such purchases below par in the original bond contracts.)

The government claimed that although the country's economic situation had improved (in terms of its capacity to pay), because its foreign loans had originally been granted based on

expectations of export revenues, it was appropriate that the interest of creditors be linked to the prosperity of commodities whose markets were strongly influenced by the policies, particularly trade restrictions, of the creditor countries. The Council recommended refusal of this plan, given that in 1934 the contractual payments on all foreign debt amounted to \$41 million (of which \$27 million was interest) while Law 5580 provided a mere \$4 million for servicing (of which \$2 million would be interest) and, in addition, to collect under the plan, the bondholders were required to waive the rights derived from the original bond contracts.

Between April of 1936 and January of 1939, a total of \$39.885 per \$1000 bond was offered in interest payments if the bondholder assented to Law 5580 (by having the bonds stamped), with back interest payments available to new participants until January of 1940 for Republic and Republic-guaranteed issues (by which time 81% of these bonds had been stamped) and until August of 1940 for municipal issues. All subsequent annual interest offers were available only during the same calendar year and required both assent and surrender of all previous coupons. Between 1935 and 1948, these partial payments amounted to about 20% of the contracted interest.

By 1940, the Chilean government was busily diverting promised funds elsewhere instead of redeeming its debts, and servicing became even more stringent. A December of 1940 decree ordered the transfer of \$6 million from the Amortization

Institute to the Treasury for the rehabilitation of 1939 earthquake damage (although the government apologized to bondholders and promised to return to the provisions of Law 5580 in 1941.) However, in 1942, Law 7160 set an extraordinary tax on copper companies, thereby reducing the revenues available for debt service. These revenues were also reduced by diversion from the amortization account of some \$22 million between 1941 and 1949. Furthermore, none of the bonds repurchased under the plan were presented to the fiscal agent for cancellation and so continued to participate in the pro rata distribution of interest.

Upon refusal of a \$40 million loan from the IBRD in September of 1946, Chile rethought its servicing strategy. In the spring of 1947, the Chilean government held discussions with the FBPC which rejected the Chilean proposal of a reduction in principal. Then, in March of 1948, Chile presented an exchange offer for all its dollar bonds under Law 8962 to replace the 1935 law's provisions. The Council commented that "the proposal was a recognition on the part of the Chilean authorities of the need for acceptable service."⁴ A new issue of 46-year dollar bonds of the Republic would be exchangeable at par for the presently outstanding bonds of the Republic, the Mortgage Bank, and the municipalities, consolidating them into a single loan. They would bear reduced interest, starting at 1.5% in 1948 and rising to 3% in 1954 and thereafter. Bondholders who had not assented

⁴ FBPC (1949), p. 103.

to Law 5580 and those who assented late were to receive all compensation previously offered under that plan in non-interest bearing scrip, redeemable over a period of ten years. The offer was held open until December of 1970, and the Council recommended acceptance. By December of 1949, 77% of the outstanding bonds had been exchanged under this offer. More importantly, the IBRD approved a \$16 million loan to Chile on March 25, 1948, the day after the announcement of this settlement.

In 1950, Chile terminated the allocation of revenue directly to the Amortization Institute, and the Treasury began to allocate directly the funds necessary to service foreign debt. Interest payments continued under the 1935 Law until 1967 for those who assented to that settlement but not to the 1948 Law; the remaining amounts outstanding fell to zero by 1970. The 1948 New Bonds were serviced faithfully until the remaining principal was recalled in 1978.

Chile also had substantial non-dollar debt during this period. Between 1885 and 1929, numerous bonds were issued in sterling and in 1929 and 1930, a small amount was borrowed in Swiss Francs. In 1930, when Chile owed \$157.9 million in long-term dollar debt, it also owed \$160.5 and \$16.2 in sterling and Swiss Francs respectively (converted to \$ at par). Default on non-dollar obligations occurred at the same time as on dollar bonds, and the subsequent settlement plans were extended to these issues as well. Law 5580 included all foreign debt from the start. The 1948 exchange offer was made available to sterling

debt in December of that year and to Swiss Franc debt in August of 1949. By the end of 1949, 92½ of sterling debt and 81½ of Swiss Franc debt had assented to the offer.

B.4. Colombia's Debt History

Between 1926 and 1928, Colombia publicly offered dollar bonds in the form of two national issues at 6% for \$60 million and four nationally-guaranteed Agricultural Mortgage Bank issues at 6% and 7% for \$16 million. Between 1924 and 1929, six Departments and four municipalities borrowed \$67.4 million at 6.5% to 7.5% and \$26.1 million at 6.5% to 8% respectively in the form of dollar bonds without national guarantee. Both of the Republic issues and three of the Mortgage Bank issues allowed retirement through purchases at market prices. One of the Republic issues also allowed the government to increase sinking fund payments.

Starting in October of 1931, some of Colombia's municipal issues began defaulting on sinking fund payments. One municipal issue defaulted on interest payments as well in December. By the end of 1932, most of the municipal and departmental issues had defaulted on interest and sinking fund, and the nationally-guaranteed Agricultural Mortgage Bank issues had defaulted on sinking fund only. It was not until 1933 that the Republic issues defaulted and the Mortgage Bank issues ceased payment on interest. By October of 1933, all issues were in default, at which time \$66.1 million of national and nationally-guaranteed bonds and \$82 million of departmental and municipal bonds as well as \$13.2 of defaulted sterling debt were outstanding.

Reduced interest payments were made on the two national issues after default. In 1934, a payment of 1/3 cash and 2/3 non-interest scrip (not redeemed for cash until 1937) was offered for two coupons on one bond and one coupon on the other. Two more coupons were paid on each in 1936 entirely in 4% scrip (redeemed in 1946). In 1940, the government paid half of the contractual interest on the two bonds for that year upon surrender of both coupons and turned in to the fiscal agent \$6.0 million in bonds (about 10% of the amount outstanding at the time of default) purchased since 1933 at prices ranging from 16 to 27.

In June of 1941, Decree 1388 went into effect, offering a settlement plan for the national issues. New 3% bonds, External Sinking Fund Dollar Bonds due 1970, were offered in exchange at par for the \$43.7 outstanding national bonds with convertible certificates for half of the unpaid interest arrears between 1935 and 1939. The Foreign Bondholders Protective Council protested against the inadequacy and unfairness of this offer which was not based on what Colombia plainly can do. It represents the most Colombia reluctantly has been willing to do." ⁵ The Council objected especially because the decree claimed the government's "right to stop payments if at any time economic or fiscal conditions prevent the country from promptly and completely servicing the new issue"⁶ and because Colombia was fully servicing its internal and short-term obligations throughout this

⁵ FBPC (1940), p. 33.

⁶ FBPC (1940), p. 33.

period. Furthermore, the Council claimed that Colombia had maintained a favorable balance of trade with the U.S. all through the late 1930's, with its export surplus exceeding ten times the interest requirements on its dollar bonds. The Council denounced a published statement of the Colombian Minister of Finance in which he

enunciates the policy of Colombia to be to lower the interest rate as much as possible in order to depress the value of the bonds and take advantage of the necessities of the bondholders who are obliged to sell their bonds at the low prices forced upon them by the Colombian Government itself.⁷

Nevertheless, "the Council does not feel justified in expecting that the Colombian Government will make any more favorable proposal to the bondholders,"⁸ and the Council was right. No subsequent offer was made on the Republic issues. By 1945, 88% of the national issues were reported exchanged. This offer was unique in becoming a final and binding settlement without the stamp of approval of the Council.

In July of 1942, the same exchange bonds were offered for the Agricultural Mortgage Bank issues with convertible certificates for \$100 of interest arrears (equal to about 20% of interest owed) and to non-guaranteed mortgage bonds from the Bank of Colombia, the Mortgage Bank of Bogota, and the Mortgage Bank of Colombia for 75% of their face amount only, with past interest cancelled. Since no additional new bonds had been authorized,

⁷ FBPC (1940), p. 33.

⁸ FBPC (1940), p. 33.

exchanges were made with new 3½ bonds redeemed since 1941 by Colombia. At this time, it was revealed that approximately 50% of all the mortgage bonds had been repatriated but not returned to the fiscal agent for cancellation between 1933 and 1942 when market quotations ranged from 14 to 38.

In November of 1944, the same offer was extended to City of Bogota bonds, again with all past interest cancelled, at which time it was reported that 60% of these bonds had been bought back during default. In addition, one other municipal issue reached its own settlement in 1944. The other two cities and all departments continued in default until 1949 when new 3½ bonds of the same obligors, guaranteed by the Republic, were offered in exchange for 120% of the principal amount outstanding, in compromise of all interest arrears since 1932. This offer received the recommendation of the Council. Almost 50% of these issues had been repurchased on the open market after default. By , 77% of the bonds had been exchanged.

Colombia had a smaller amount of sterling debt on which it defaulted at the same time as on its dollar bonds. Five national sterling bonds issued between 1906 and 1920 totalling \$12.9 million in principal and one Agricultural Mortgage Bank issue of 1929 for \$.6 million constituted all of Colombia's non-dollar long-term debt until the 1933 and 1934 issue of \$6 million in Funding Certificates (similar to the 1934 scrip issued in dollars). Service was resumed in July of 1942 along the same lines as the plan for dollar bonds but with no exchange for new

bonds. Half of interest arrears was paid in 3% scrip while current and future interest was to be paid at half the originally contracted rate.

Colombia fared moderately well in the 1950's in terms of external finance. (See Tables A.7 and A.8.) It received IBRD loans totalling \$36 million between 1949 and 1954 to finance road and railway construction and hydroelectric works. Between 1955 and 1960, IBRD extended the country \$75 million more. It also received \$53 million between 1946 and 1954 from the Export-Import Bank (and from U.S. commercial banks guaranteed by the Export-Import Bank and the Colombian government). Between 1955 and 1960, Colombia received an additional \$142 million to refinance arrears on import payments of private importers and commercial banks. Colombia did not undergo any reschedulings in the 1950's or early 1960's, its debt having a relatively low proportion of supplier credits to total, leaving it more manageable than that of other Latin American states.

B.5. Peru's Debt History

Peru issued 94.5 million of dollar bonds in 1927 and 1928. Of these, \$90 million were three national issues at 6% and 7% while the remaining amount consisted of \$1.5 million borrowed by the Province of Callao at 7.5% with the guarantee of the national government and \$6.5 million borrowed by the city of Lima at 6.5%. The Republic issues allowed redemptions only through drawings at

par or 105. The provincial issue allowed retirement through purchases at market prices.

Peru defaulted on its dollar obligations between April of 1931 and March of 1932 at which time \$91 million of principal remained outstanding. Funds remaining with the fiscal agent allowed partial payments (of .5% to 3.25%) on account of one additional coupon in 1932 for the national and provincial issues. In 1937, small payments of .5%, less than 10% of the interest due for that year, were offered by Peru on its national issues if the next two coupons were surrendered. The Foreign Bondholders Protective Council suggested that approximately two-thirds of bondholders accepted this payment. The Council objected that this small sum amounted to less than 1.5% of the Peruvian government's budget for 1936.

In 1940, Peru adjusted a short-term dollar banking credit, paying up its interest arrears and arranging future payments at a reduced rate from 6% to 2% and also continued paying interest on the only foreign debt on which it never defaulted, the Sterling Guano Loan, at 4% instead of the contracted 7.5%; however, it attempted no action on its dollar bond obligations. In 1941, the existing Peruvian Bondholders Committee for the national issues threw in the towel, and the Foreign Bondholders Protective Council took over responsibility for negotiations.

Until 1945, Peru's only offer of settlement was on what was described as 'the Mexican basis', at one sol to the dollar, which would have resulted in a reduction of principal by approximately

85%. In 1945, the Peruvian Congress considered a bill proposing redemption of service on the external dollar debt by providing for interest from 1945 to be paid at 1%, rising to 3% by 1950, and for a sinking fund of .5% per annum. The interest arrears of the 15 years of default up to August 1945 were to be cancelled. This bill was never passed.

In February of 1947, the Peruvian Congress passed Law 10832, authorizing the government to resume service on the defaulted dollar and sterling loans on terms less generous than those considered in 1945. The Law provided that interest up to December of 1946 was to be cancelled. New exchange bonds were to be issued due 1997, Series A through D, corresponding to old issues of the Republic and of Callao. Series E dollar bonds were provided to cover two sterling issues. Interest would then be paid at 1% for 1947 and 1948 and at 2.5% thereafter. Sinking fund payments would be .5% per annum of the total amount issued, to purchase bonds below par in the market or to draw bonds at par. In addition, the City of Lima was empowered "to resume service on its foreign debt in the manner that it may deem convenient." (FBPC, 1949, p. 314). The Council recommended refusal of this plan because it called for the complete cancellation of interest arrears over 15 to 16 years, amounting to 90% to over 100% of the remaining principal outstanding on the issues, because "the ultimate interest rate of 2.5% is lower than

the Council has ever agreed to recommend for foreign national bonds,"⁹ and because

this legislation does not purport to authorize an offer, subject to acceptance by bondholders (as is customary and necessary in bond adjustments) but to be a unilateral change made by Peru in its contracts with all bondholders, with or without their consent.¹⁰

Furthermore, the Council considered the service obligation to be unacceptably low as a proportion of the government budget or of exports. Nevertheless, by 1951, 64% of the bonds had assented.

In November of 1951, following negotiations with the Council, a new readjustment plan was announced, with the Council's recommendation for acceptance. This offer was to take effect in January of 1953, providing another set of exchange bonds with conditions similar to those of the 1947 bonds, with a maturity of 1997 but paying interest of 3% from 1953 as well as offering non-interest bearing scrip for 10% of the unpaid interest arrears of 1931 to 1946 (to be paid off over 15 years). Both those bondholders who had accepted the 1947 exchange and those who had not were entitled to participate. All coupon payments made under the 1947 offer would be paid in a lump sum to those who had refused the 1947 offer upon acceptance of the new exchange. The new plan also included a new Series L bond issue in exchange for Lima's defaulted dollar bonds. The offer was originally to terminate in 1954 but was extended four times to a final termination date of 1970. It was not extended to cover the

⁹ FBPC (1949), P. 316.

¹⁰ FBPC (1949), p. 314.

Series E bonds (for the old sterling loans) until 1954. By 1957, 95% of the bonds had assented.

Peru's non-dollar borrowings were small by comparison. It had two national sterling issues for \$6.3 million in 1922 and \$10.0 million in 1928 and one municipal issue by Lima for \$.6 million in 1911. The 1928 sterling loan and the Lima loan defaulted at the same time as the dollar bonds; however, reduced service (at 4% rather than 7.5%) on the Sterling Guano Loan of 1922 was maintained until redemption in 1960. In 1947, the bondholders of the two defaulted issues were offered Series E dollar bonds under Law 10832, and in 1954, new Series E bonds were offered with the improved service discussed above. All 1947 Series E bonds were exchanged by 1961.

Further external financial flows are recorded in Tables A.9 and A.10. Peru received a number of loans from the U.S. Export-Import Bank, including \$.5 million in 1945 and then \$16 million more between 1950 and 1955 to private Peruvian companies, especially mining companies. Between 1955 and 1960, it provided \$149 million more of which \$100 million was granted to a Peruvian copper company to develop mines in the south of the country and the rest to finance various imports. IBRD has also extended loans. Between 1952 and 1954, it provided \$3 million for port improvement and agricultural equipment imports and \$39 million between 1955 and 1960. Finally, the U.S. gave an additional \$11 million to Peru in this period as bilateral aid.

Appendix C. Notes on Methodology

These notes explain the specific definitions and assumptions used in the cost of borrowing calculations and include a list of additional data sources.

The cost of borrowing was calculated in terms of present values of borrowings, of payments, and of net payments on all of each country's national and nationally-guaranteed dollar bonds issued from 1917 onwards, each issue being tracked from the date of issue until redemption (or 1980). Each bond's stream of actual receipts and actual payments, including interest and amortization and other buyback payments, was converted into comparable present value by discounting to the issue year for each bond and then to the common base year of 1920, using the yield to maturity on U.S. long government bonds for the year of issue and for 1920. Country totals are the sum of the net present values for all its issues.

Net present values include principal received as negative payment amounts and are calculated for each country as follows:

$$NPV = \sum_{b=1}^B \sum_{t=t_0}^{1980} v_{tb} * (1 + r_{0b})^{-(t-t_{0b})} * (1 + r_{1920})^{-(t_{0b}-1920)}$$

where v_{tb} = payments in year t net of new principal for bond b ;

r_{0b} = U.S. interest rate in issue year of bond b ;

t_{0b} = issue year of bond b ;

r_{1920} = U.S. interest rate in 1920;

b = bond issue.

Principal received is estimated as the issue amount of the bond valued at the issue price in the market minus the bankers' spread for that country for that year. Principal amount and issue prices are from D & D (1937). Bankers' spreads by year and country are from Lewis (1938) or by country averaged over the period from Madden (1937).

Interest payments for year t for each bond are calculated as the contractual interest rate on all bonds outstanding at the end of the previous year. If bonds must be stamped to receive interest under a settlement plan, then the annual payment is calculated on the amount of stamped bonds outstanding. If interest was paid in scrip, the amount is recorded for the year in which it became payable in cash.

Outstanding bonds indicates the end-of-year value for bonds still outstanding in the hands of the public, generally as reported by the fiscal agent for the issue. Amounts are from UNPD for 1912-21 and from various volumes of D & D for 1924-32, of FBPC for 1934-57, 61, 64, 67, and from MBR for 1970-80. Missing years are extrapolated to lie on the trend between the existing data points.

Reductions in amounts of principal outstanding (amortization payments) are valued as follows. If the redemption is recorded, then the amount called is valued at par (unless otherwise specified in the bond contract). If official redemptions did not occur, then it is assumed that all retirement of bonds occurred through purchases at market price after default and in accordance with the provisions of the original bond contract before default. Buybacks that occurred during the period of default did not get reported to either the Foreign Bondholders Protective Council or the fiscal agent until some offer of settlement was made. These buybacks are assumed to have taken place at an even rate during these periods of non-reporting. It should be noted that all of the post-default settlement plans allowed for buybacks at less than par as did 12 out of 36 of the original bond agreements. Market prices and dates of redemptions are from various volumes of FBB for 1923-33, of D & D for 1924-32, of FBPC for 1933-44, of B & QR for 1945-59, 71-80, and of S & P for 1960-70.

Descriptions of the original bond contracts and the nature and timing of defaults are from D & D and FBPC. The details of settlement plans are from FBPC, including partial interest payments or payments via scrip during default, amounts stamped in assent, and estimates of buybacks on the market below par.

United States interest rates are recorded in Table A.12 and are from BMS and FRB.

Additional Data Sources and Sources Cited in Appendices

- B & QR: Bank and Quotations Record (vols. for 1928-81).
- BMS: Banking and Monetary Statistics (1943,1976), Washington, D.C.: Board of Governors of the Federal Reserve System.
- D & D: Dominick and Dominick (vols. for 1924-37), Foreign Bonds Issued in the United States, New York: A. Iselin and Company.
- FBB: Fitch Bond Book (vols for 1922-43).
- FRB: U.S. Federal Reserve Bulletin (vols for Dec. 1970 to Dec. 1980), Washington, D.C.: Board of Governors of the Federal Reserve System.
- FBPC: Foreign Bondholders Protective Council (vols. for 1933 -67), Annual Report, New York: Foreign Bondholders Protective Council.
- IMF: International Monetary Fund Balance of Payments Yearbook (various years), Washington, D.C.: International Monetary Fund, vols. 5, 8-10, 12,14,17,18.
- MBR: Moody's Bond Record (vols. for 1971-80).
- S & P: Standard and Poor's Earnings and Ratings Guide (vols. for 1961-71).
- SALA: Wilkie, James, ed.(1980, 1981, 1985), Statistical Abstract of Latin America, Los Angeles: UCLA Latin American Center Publications, vols. 20, 21, 24.
- SBBI: Stocks, Bonds, Bills, and Inflation 1986 Yearbook: Market Results for 1926-1985 (1986), Chicago: Ibbotson Associates, Capital Management of Research Center.
- SNP: Wilkie, James (1974), Statistics and National Policy. Supplement 3 of the UCLA Statistical Abstract of Latin America, Los Angeles: UCLA Latin American Center Publications.
- UNPD: United Nations, Department of Economic Affairs (1948), Public Debt: 1914-1946, Lake Success, New York: United Nations Publications.