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Chapter 1

The Volume of Foreign Lending

1 *Scope of the Investigation*

Our analysis is confined to foreign loans issued during the brief span of 11 years, 1920-30. The limits are set by the short history of American foreign lending.

Until the close of the 19th century "The flotation of foreign securities in the United States was a rare event".[1] The United States was almost exclusively an importer of capital. With the turn of the century the shift from international debtor to international creditor began; American investors became interested in foreign securities. Between 1900 and 1905 there was even a sort of miniature boom in foreign underwriting. However, until World War I foreign lending was on so small a scale that it presented no major problems and attracted little attention. The big change took place during World War I; 1915 was the first year of large scale foreign underwriting by the United States (Table 1). In one single war year, 1916, the par value of foreign dollar loan flotations exceeded that in the preceding 15 years. The magnitude of the change can be seen by comparing the two 15-year periods, 1900-14 and 1915-29. The total number of foreign issues was 273 in the former, 1,936 in the latter; the corresponding par values increased from $1,132 million to $13,742 million. In view of the small scale of American lending before 1915 we exclude it from our analysis. World War I is omitted for another reason — the abnormal character of the loans, the majority of which went to Great Britain and France, and must be regarded as a form of American participation in the war. Since 67 percent of foreign loans in 1919 still went to the British and Canadian governments, this year also has been excluded.

[1] Department of Commerce, *Handbook on American Underwriting of Foreign Securities* by Ralph A. Young, Trade Promotion Series, No. 104, 1930, p. 9.

Table 1

Total Foreign Dollar Capital Issues, Governmental and Private Publicly Offered in the United States

Year of Issue	*Number of Issues*	*Amount* ($ million)	*Year of Issue*	*Number of Issues*	*Amount* ($ million)
1900-13 (an. av.)	18	78	1923	76	498
			1924	120	1,217
1914	26	45	1925	164	1,316
1915	80	818			
1916	102	1,160	1926	230	1,288
1917	65	720	1927	265	1,577
1918	28	23	1928	221	1,489
1919	65	771			
			1929	148	706
1920	104	603	1930	122	1,088
1921	116	692			
1922	152	863			

Department of Commerce, *Handbook on American Underwriting of Foreign Securities* by Ralph A. Young, Trade Promotion Series, No. 104, 1930, pp. 10, 11; figures for 1930, Department of Commerce, *Trade Information Bulletin*, No. 746.

The end of our period is likewise set by the history of foreign lending. The peak of foreign underwriting was reached in the first half of 1928; foreign issues then declined and, after a short-lived recovery in the first half of 1930, came to a complete standstill in 1931 when the era of defaults began. During the rest of the interwar period only an insignificant number of foreign loans, largely for refunding purposes, were granted.

This investigation deals solely with foreign government bonds, the most important among the foreign loans of this period. It is based upon an itemized record of foreign government, state or provincial, and municipal issues, including governmentally guaranteed or controlled corporate issues, publicly offered in the United States. This record, the only comprehensive monthly list of foreign security flotations ever issued, was compiled by the Department of Commerce and published in 1930 in its *Handbook on American Underwriting of Foreign Securities.*[2]

We have excluded a few categories from the government and government controlled securities listed in the *Handbook*: loans to

[2] Lists for subsequent years are published annually in the Department's *Trade Information Bulletin*. No such record has been compiled in Great Britain despite its long history of foreign lending.

American non-contiguous territories and possessions; loans with a term of less than 2 years;[3] and 5 small issues of common and preferred stock which the *Handbook* calls "minor exceptions". Our measures of quality, yield, etc. are designed for and applicable to bonds only. Altogether the loans omitted on these three counts are 18 percent of the total number and 9 percent of the dollar value of government and government controlled loans listed in the *Handbook*.

In short, our investigation covers European, Latin American, Canadian, and Far Eastern government and government guaranteed or controlled bonds with terms of 2 years or more, publicly offered in the United States during 1920-30. Within this definition we deal with a 100 percent sample, i.e., with all such bonds listed in the *Handbook*[4] comprising about 800 issues of 43 borrowing countries with a total par value of a little over $7 billion. As a rule our analysis refers to the nominal dollar amount, not to the number of issues. For this purpose the dollar amount of a loan is the par value of the part of the issue that was actually underwritten in the United States.

Some doubts attach to the inclusion of Canadian bonds among foreign loans. American investors in the 1920's hardly looked upon Canada as a foreign country. Geographic proximity, the interlacing of the Canadian and American economies, and familiarity of American investors with Canadian conditions sets off Canadian from all other foreign investments. As the results of our analysis might be considerably affected by the treatment of Canadian bonds, accounting as they do for about 21 percent of the dollar value and for about 44 percent of the number of all the bonds in our lists, we analyze foreign loans both including and excluding Canadian securities.

The series of bond flotations here discussed represents the basic data for which we derive an index of loan quality in Chapter 2. However, before proceeding to this, our major objective, we want

[3] Loans with a term of less than 10 years were few; most issues had maturities of 10 to 40 years.

[4] A few errors found in the *Handbook*, such as the listing of an issue which was withdrawn, were corrected.

to examine this series itself, since it reveals some interesting facts about foreign lending.

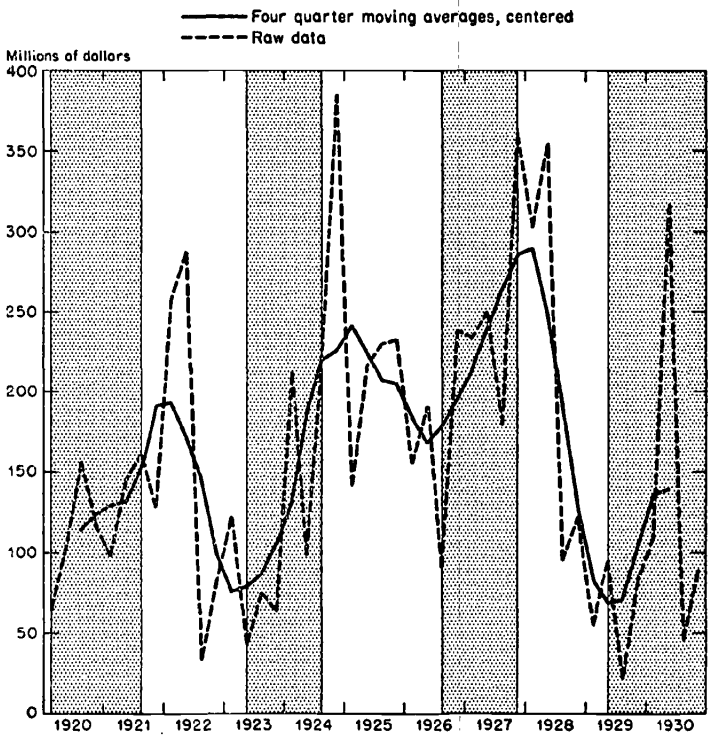
2 *Cycles in Foreign Lending*

Three cycles in the dollar amount of foreign bond flotations stand out clearly (Chart 1).[5] Their contours are so smooth that we can identify the turning points without hesitation. Loan cycles move counter to general business with almost perfect synchronism. The

[5] All moving averages presented in this study are 4-quarter moving averages centered by 2-item moving averages. The highly erratic character of the series makes smoothing desirable, though moving averages have the disadvantage of reducing the amplitude of fluctuation and may affect the turning points also. Actually, however, peaks and troughs in the moving averages differ at most by one quarter from the turning points in the seasonally adjusted data (cf. Chart 1).

Chart 1

Foreign Government Bonds Issued in the United States 1920 – 1930



Shaded areas represent contractions, white areas, expansions of business cycles according to NBER chronology. Appendix Table 13.

sole deviations are near the turning points. The loan curve lags one or two quarters at business cycle troughs and leads by one quarter at business cycle peaks, except in 1929 when the turning points coincide.[6]

This shape and timing of the loan curve, its close relation to cycles in general domestic business activity, is quite surprising for several reasons. First, as relatively few issues are included in the loan curve, considerable random fluctuations might be expected despite the moving averages. Second, the issuing of securities in general has been found to be a "highly volatile process" conforming ill to business cycles.[7] Third, foreign bond issues are inversely related to business cycles, and inverted series as a class conform less well than positive series.[8] Finally, 'erratic' is the term most frequently applied to the foreign lending of the twenties and we are used to hearing the movements of international capital described as 'senseless and irrational'. Does our curve not look like the achievement of an office for contracyclical planning of foreign investments, expanding and contracting foreign loans promptly as domestic business contracts or expands? One might say that the United States was developing its new role as a creditor country in the intervals between expansions in its internal economy.

Another striking feature of the series is the trend that runs through the three cycles. As the direction of foreign borrowing was inversely related to general business activity, one might expect that this relation would hold between as well as within cycles; that is, one might expect the highest peak of foreign lending to coincide with the deepest trough in general business, and so forth. But

[6] In evaluating leads and lags in flotations the lapse of time between the negotiation and flotation of a loan must be kept in mind.

[7] Wesley C. Mitchell, *What Happens during Business Cycles — a Progress Report* (NBER, 1951), Ch. 6. Mitchell ranks 29 groups of series by their conformity to business cycles. Security issues are among the 6 groups with lowest conformity. However, the conformity of some types of issue, e.g., common stocks, is rather high.

[8] Ibid., p. 96. "In general, influences that tend to repress an activity in expansion encounter more opposition than influences favoring an increase, and when repressing influences win out, their victories are less regular from cycle to cycle than the victories won by influences that push upward. *Mutatis mutandis,* the like holds true in contraction."

for the most part the reverse was true. The second trough of our curve is not half as deep as the first and each peak is considerably higher than the preceding; at the same time domestic business too rose in successive waves. In other words, though foreign loans moved inversely to business cycles they had the same rising trend. Evidently, the increase in the volume of credit from one cycle to the next was large enough to allow for the expansion of both domestic and foreign lending.[9]

Applying the concept of the major cycle to the three successively rising waves of the 1920's, the foreign loan series may be described also as being positively related to major and inversely to minor cycles in general business.

3 *The Balance of Payments and Foreign Bond Cycles*

Fluctuations in the amount of lending are not our subject. However, the cycles in the foreign bond series are too intriguing to be passed without a few comments on how they might be interpreted. Their relation to the balance of payments is of major interest. Were the cycles in foreign lending determined by cycles in the trade balance?

The main features of the American balance of payments in the 1920's were roughly these: imports moved consistently and exports usually with American business cycles, but since the swings of imports had larger amplitudes the export surplus moved inversely to business cycles. In expansions imports increased more than exports and the export surplus shrank; in contractions imports fell more than exports and the surplus grew.

These inverse cycles in the trade balance were very roughly paralleled by cycles in the net outflow of long term capital which also fell when domestic business improved and rose when domestic business contracted. Thus equilibrium in the balance of payments was at least partly maintained by parallel changes in the net outflow of goods and capital. This in itself is, of course, not surprising. We expect net capital exports to be accompanied by a favorable balance of trade. What is puzzling is the mechanism of the adjust-

[9] "The total [expansion of bank credit] was sufficient to finance a large export of capital and an enormous increase in our domestic capital equipment", J. M. Clark, *Strategic Factors in Business Cycles* (NBER, 1934), p. 99.

ment process. Precisely in what way, by what process of transmission did flows of goods and of capital influence each other?

Several answers have been offered. They concern us only as far as they throw light on the fluctuations in the large part of capital movements we investigate: bond issues.

Arthur I. Bloomfield in his excellent, thorough examination of the Mechanism of Adjustment of the American Balance of Payments: 1919-29, discards the possibility that foreign bond flotations were determined by the trade balance: "We neglect, as highly unlikely, the possibility that the parallelism was the result of a mechanism of adjustment sequence *from* the trade balance *to* the long term capital balance."[10] At present, when borrowing is so largely determined by balance of payment deficits, this summary rejection may not seem justified. However, it must not be forgotten that conditions in the twenties were different. State or municipal governments, as far as they needed foreign exchange at all, could buy it freely. And even national governments were usually not motivated by balance of payments difficulties when they decided to borrow abroad. The gaps the government wanted to fill with foreign loans were in their domestic budgets, not in their balance of payments; funds were sought abroad for rebuilding or developing transportation and industry because investment capital was relatively short and expensive at home.

To this it may be objected that the American trade balance may have affected foreign borrowers indirectly through its influence on credit policies in debtor countries. The following hypothesis seems logical: when Americans bought more abroad, pressure on monetary reserves in debtor countries was eased and credit was more readily available, thereby reducing the incentive to borrow in the United States. A drop in American imports, on the other hand, increased trade deficits and pressure on reserves, and induced foreign governments to seek abroad the money it was harder to raise at home. Thus the inverse cycles of American capital exports would be explained simply and plausibly by the positive cycles of American merchandise imports.

But a glance at trade figures shows that Bloomfield was right in rejecting this line of reasoning. Exports of individual debtor

[10] *Quarterly Journal of Economics*, May 1943, p. 344.

nations did not fluctuate with total American imports; hence it is hardly conceivable that our imports were decisive for the credit policies of these countries. Nor did borrowings of individual countries, except possibly Canada, show any clear relation to American imports.

Yet cycles in foreign trade might cause cycles in bond issues in another way: through their impact on the credit situation in the lending country. William Adams Brown, Jr. offers this interpretation of British lending in the 19th century: "Net exports of goods, services and securities increase both the foreign assets and domestic deposits of the banks. Banks whose foreign assets accumulate too rapidly attempt to replace them by domestic assets, which contributes to easy money in the home market. A connection is thus established between the current accumulation of foreign credits through trade by a country having an international money market and the creation of favorable conditions in that market for the placement of foreign loans."[11]

But Brown does not think this interpretation applicable to the United States. "The capacity of the New York market to extend long term credit was great, but the economic connections between the volume of savings available for lending abroad and the character of the country's foreign trade were very loose."[11] The fact that dollar bond issues turned up at or before business cycle peaks, which are typically not periods of easy money, also contradicts this explanation.[12] Thus it seems unlikely that the cycles in American foreign bond issues were caused by cyclical changes of the trade balance.

4 *Foreign Business Cycles and Bond Cycles*

a) CYCLES IN DEBTOR COUNTRIES

Foreign economic and political conditions might be supposed to be the salient factors in fluctuations of foreign lending. There is, indeed, a strong presumption that they were. J. W. Angell has advanced an interesting hypothesis along this line with respect to American net capital exports in the 1920's. He suggests that

[11] *The International Gold Standard Reinterpreted* (NBER, 1940), pp. 558-9.

[12] Since foreign flotations in Great Britain, as distinguished from net capital exports, also show a pattern inverted to British business cycles, some doubts attach to the validity of this explanation even for Great Britain.

changes in commodity and capital movements have been, "directly or indirectly, the common results of a common antecedent condition, the fluctuating state of economic affairs in Europe".[13] He thinks that American net capital exports were inversely related to fluctuations in European business, i.e., that they fell as Europe recovered from the war and again as it recovered from the stabilization crisis of 1924.

Similar reasoning might apply to foreign bond flotations and to non-European countries. We try to test this hypothesis by comparing fluctuations in the dollar bond issues of a few major borrowing countries with their own business cycles. The analysis is confined to the 8 countries in our bond records whose business fluctuations have been described from a viewpoint that warrants comparison with the data on American cycles used here: Argentina, Australia, Austria, Brazil, Germany, France, Italy, and the Netherlands.[14] Even these data on foreign cycles are probably less reliable and are certainly less precise than those on American cycles.

The discontinuous nature of foreign borrowing by governments presents another difficulty. Whereas all foreign bond issues in the United States form a continuous series, the individual foreign country's dollar issues were intermittent even for the heaviest borrowers and came at wide intervals for the others. Consequently, results might vary materially, depending upon whether a particular quarter is or is not included in a cycle phase. To increase the reliability of the test we mark off cycle phases in three ways. First, we compare issues floated during the 3 quarters centered on business cycle peaks with those during the 3 quarters centered on troughs (Method A); second, issues during 5 quarters centered on peaks are compared with those during 5 quarters centered on troughs (Method B); and finally, issues floated in quarters nearer peaks are compared with those in quarters nearer troughs (Method C). The last method includes all the issues for each country in the analysis. But however the comparison is made, no consistent

[13] Equilibrium in International Trade: The United States, 1919-26, *Quarterly Journal of Economics,* May 1928, p. 432.

[14] W. L. Thorp, *Business Annals* (NBER, 1926); NBER *News-Bulletin 43* (1932); Burns and Mitchell, op. cit., pp. 78, 79 (for France and Germany).

Table 2

Foreign Government Bonds Issued in the United States Compared with Business Cycles in the Borrowing Country and in the United States, 1920-1930

ISSUING COUNTRY	*Method A* Peak period	*Method A* Trough period	*Method B* Peak period	*Method B* Trough period	*Method C* Peak period	*Method C* Trough period
	AVERAGE AMOUNT ISSUED PER QUARTER DURING PEAK AND TROUGH PERIODS IN BUSINESS CYCLES OF BORROWING COUNTRIES (millions of dollars)					
Argentina	5	20	9	19	10	14
Australia	7	4	7	2	6	4
Austria	0	1	0	1	3	3
Brazil	8	12	8	14	6	14
France	22	14	14	15	11	12
Germany	16	15	30	22	35	25
Italy	3	0	9	0	7	1
Netherlands	0	0	0	5	1	6
Total	61	66	77	78	79	79
	AVERAGE AMOUNT ISSUED PER QUARTER DURING PEAK AND TROUGH PERIODS IN BUSINESS CYCLES IN THE UNITED STATES					
Total, 8 countries	32	111	34	102	45	96
Total, all countries	103	220	111	219	119	217

See text for description of methods of defining peak and trough periods.

cyclical pattern emerges. While Australia, Germany and Italy borrowed chiefly at times when they enjoyed relatively high business activity, Argentina, Brazil, and the Netherlands floated most of their issues during periods when their economics were relatively depressed. Austrian issues were about equal in the two periods; for France the results are inconclusive. Together the 8 countries' issues at their respective cycle peaks were, depending on the definition of peaks and troughs used, either equal to or only slightly smaller than those at their troughs.

The contrast between these results and those obtained when foreign issues are compared with cycles in American business is striking. Whether we compare issues at peaks with those at troughs, or issues during the entire upper half with those during the entire lower half of the cycle, whether we deal with all bonds or only with those issued by the 8 countries, we invariably find that foreign lending was much greater during American depressions than during American prosperity. For all the loans in our record the average amount issued during the 3 quarters centered at peaks of American

business cycles was $103 million; at troughs, $220 million. For the 8 countries the contrast is even greater: $32 million at peaks and $111 million at troughs. In view of the fact that the 8 countries issued an average of $61 million in quarters when their own business was at peak level and an average of $66 million in quarters when their own business was depressed, the conclusion seems warranted that American business conditions were the dominant factor.

The explanation of the lack of relationship between fluctuations in foreign issues floated in the United States and foreign business cycles, of the fact that some countries borrowed primarily when they enjoyed relatively prosperous business conditions, that others sought loans more frequently when their business was depressed, and that the issues of a third group were about equal in the two periods, may be, in part at least, that we deal with government issues. As governments, even states and municipalities, are motivated in their borrowings largely by nonbusiness factors, the absence of cyclical conformity is not surprising.[15] What has to be explained is the close relationship between their borrowings in this country and business conditions here.

b) CYCLES IN FOREIGN CREDITOR COUNTRIES

The influence of business swings in borrowing countries on borrowers' decisions cannot explain the fluctuations in American foreign lending; but what about the effect of business cycles in foreign creditor countries on their competitive position? If the cost of borrowing moves differently in foreign creditor countries and in the United States, borrowers may shift from one market to another and this may partly account for the cycles in American bond flotations. The only major lender to compete with New York in the interwar period was London. Did variations in interest rate differentials between the two markets govern American foreign lending?

In Great Britain an embargo placed on foreign loans during the war was not withdrawn until the end of 1925. Until then the

[15] "As might be expected, the loans applied for by governments show but a slight degree of coordination with business cycles." Wesley C. Mitchell, *Business Cycles* (University of California Press, 1913), p. 405.

amount of lending depended largely upon the stringency of its enforcement. Moreover, the Bank of England controlled the quantity and direction of foreign lending during the entire period, discriminating between different classes of borrowers and types of loan. In consequence some borrowers found terms more favorable in London than in New York while the contrary held for others. As variations in London's role as capital exporter depended much more upon changes in policy than upon interest rates we must not look to the latter for a measure of the role of British lending. Data on the volume of British loans are more revealing because they reflect variations in the application of direct controls as well as in costs (Table 3).

Table 3

Foreign Government Securities Issued in the United Kingdom and in the United States, 1920-1930

Year of Issue	U. K.[a] (£ mil.)	U. S.[b] ($ mil.)	Year of Issue	U. K.[a] (£ mil.)	U. S.[b] ($ mil.)
1920	12.0	439	1925	33.8	818
1921	84.6	532	1926	56.0	673
1922	87.1	660	1927	78.2	973
1923	94.4	304	1928	71.9	875
1924	100.2	912	1929	34.7	253
			1930	68.8	650

[a] New Capital Issues to British Overseas and Foreign Public Authorities: Midland Bank, *Monthly Review*. In contrast to the American series the British series includes stock issues and is based on prices of issues.

[b] Foreign government and government guaranteed bonds of a term of 2 years or more, publicly offered in the United States. Adapted from Department of Commerce *Handbook on American Underwriting of Foreign Securities* (1930), pp. 75-132.

Since foreign government bond issues in Great Britain move in the same direction as those in the United States in 7 out of 9 years, variations in the impact of British competition can hardly explain the ups and downs in American foreign lending. During the 1924-26 contraction in American lending British foreign issues dropped sharply because of the strict embargo placed on such issues preparatory to Britain's return to the gold standard. The steep decline in dollar bond issues in the second half of 1928 (Chart 1) also was accompanied by a decline in British foreign issues. In 1923, however, British issues did rise while American fell 54 percent. It is quite likely that in this case some of the

financing that would have been carried in the United States market was done in London, especially as interest rates declined in Britain and rose slightly in the United States. But even here the importance of this factor should not be overrated. A $356 million drop in American issues from 1922 to 1923 evidently cannot be explained by the $35 million rise in British issues.[16]

5 *American Business Cycles and Foreign Bond Cycles*

a) CYCLES IN DOMESTIC BOND ISSUES

The foregoing points to American business cycles as the main cause of fluctuations in dollar bond flotations. But how did the swings in American business exert their influence? What precisely caused foreign issues to decline when domestic business expanded and to increase when it slumped?

The obvious answer is to attribute the inverse cycles to the bond character of the loans. Both H. B. Lary and Arthur I. Bloomfield, noting that total foreign capital issues (including government and corporate bonds and also stock issues) moved inversely to business cycles, advanced this explanation tentatively and with reservations. Bloomfield found that foreign flotations were "inversely correlated with domestic activity in seven years of the [ten-year] period. . . . Inasmuch as most foreign flotations in the United States were bonds, it is likely that they may have shared the same fate as domestic bond issues, which likewise tended to be inversely correlated with business conditions. Certainly the drastic decline of foreign flotations late in 1928 and in 1929 seems clearly to have been associated in large part with the sharp shift of investment and speculative interest away from bond issues of all sorts, and it is possible that this same factor may also have been an important element in accounting for the inverse behavior of foreign flotations to domestic activity in the earlier years of the period".[17]

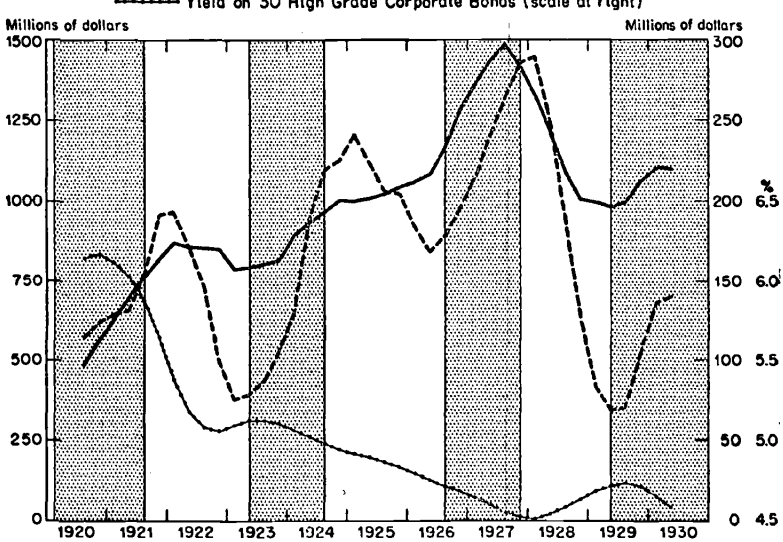
To what degree did foreign government bond offerings behave like domestic bond offerings? Chart 2 reveals considerable similarity in the movements of the two series. In 31 of the 39 quarter to

[16] Brown, op. cit., p. 328: "The very small figures for [British] loans in the last months of the year [1923] . . . reflected the foreign exchange crisis and the flight from the pound."

[17] Op. cit., pp. 367-8.

Chart 2

Domestic Bond Issues, Bond Yields, and Foreign Government Bonds Issued in the United States, 1920–1930



Shaded areas represent contractions, white areas, expansions of business cycles according to NBER chronology. Four quarter moving averages, centered; Appendix Table 13.

quarter changes foreign and domestic bond offerings move in the same direction. Three of the six turning points coincide, and a fourth is roughly synchronous. There are, however, significant deviations. Curiously, domestic issues were not as closely related to business cycles as foreign issues. They continued to rise or declined only moderately in two of the three cyclical expansions. During the first business expansion foreign issues fell 61 percent, domestic issues only 10 percent; during the second upswing domestic issues continued to increase, though at a retarded pace, so that foreign issues, which at their peak in the first quarter of 1925, had amounted to 24 percent of domestic issues dropped to 15½ percent of the latter in the second quarter of 1926. Thus it cannot be said that foreign bond issues simply followed the path of domestic issues.

Similarities and dissimilarities of fluctuations in new foreign and domestic bond issues can be described more precisely by com-

paring the volume of issues during successive peaks and troughs of general business. The differences between the standings at successive turning points measure the rise or fall of the series during an expansion or contraction in general business. To facilitate comparison of changes during different business cycles each rise or fall is expressed as a percentage of the average volume of issues during the cycle in question (Table 4).[18]

Table 4

Conformity to Business Cycles

Foreign Government and Domestic Bonds Issued in the United States

BUSINESS CYCLE			CHANGE DURING EXPANSION IN PERCENT OF CYCLE AVERAGE		CHANGE DURING CONTRACTION IN PERCENT OF CYCLE AVERAGE		CYCLE AVERAGE IN $ MILLION PER QUARTER	
Trough	Peak	Trough	Foreign bonds	Domestic bonds	Foreign bonds	Domestic bonds	Foreign bonds	Domestic bonds
	1Q 1920	3Q 1921			+72[a]	+56[a]	134[a]	717[a]
3Q 1921	2Q 1923	3Q 1924	−88	−2	+133	+43	133	852
3Q 1924	3Q 1926	4Q 1927	−25	+2	+70	+50	219	1,158
4Q 1927	2Q 1929		−124[b]	−57[b]			206[b]	1,239[b]

[a] Peak to peak cycle, 1920-23. [b] Peak to peak cycle, 1926-29.

We find again that both domestic and foreign bond flotations were inversely related to business cycles. Both rose steeply during contractions and fell or failed to rise during expansions. But domestic bonds conformed less closely: they failed, or almost failed, to decline in two of the three business expansions.

This curious fact, that foreign bond issues followed the pattern of American business cycles more closely than domestic issues, is confirmed when the behavior of the two series is analyzed in more detail. Based simply on the standings at troughs and peaks, Table 4 does not take any account of what happened during expansion or contraction. To show fully the behavior of a series during the course of the cycle, each cycle may be divided into 9 segments and the average value of the series for each segment calculated.[19]

[18] These measures are based on seasonally adjusted data, not on moving averages. For details of technique see Burns and Mitchell, op. cit., Ch. 2.

[19] Three of the 9 segments center on the initial trough, the peak, and the terminal trough. The other 6 segments are obtained by dividing the expansion and contraction each into three parts as nearly equal as possible without using fractions of a quarter. (For full explanation see Burns and Mitchell, op. cit., pp. 144 ff.)

A cycle is thus described by 9 standings, and comparison of successive standings tells us how consistently the series followed the path of general business. We compute this 9-stage cycle pattern for foreign and domestic bond issues, then compare their stage to stage movements: foreign bonds failed to conform to the inverted cycle pattern in 5 out of the 24 stage to stage movements that comprise the 3 cycles, domestic bonds in 8. The total duration of stage to stage intervals when foreign issues failed to conform was 7 quarters of the 37 quarters covered by the 3 cycles; the corresponding figure for domestic issues was 14 quarters. Clearly, foreign bond issues were more closely related to American business cycles than domestic bond issues.

H. B. Lary, in his analysis of the *United States in the World Economy,* arrives at similar conclusions when he compares total foreign flotations, government plus corporate, with domestic corporate bond issues.[20] "New foreign-bond offerings followed a path roughly parallel to that of new domestic corporate bond issues in the period 1919-31. There were, however, important deviations in the two series, especially in 1923 and in 1928-29, that indicated the operation of forces with special bearing on the volume of foreign issues. . . . The explanation seems to lie in the behavior of long term interest rates, which generally tend to harden in the expansion phase of the business cycle and to decline in times of business contraction, and thus to discourage or encourage, respectively, borrowing by foreign entities. Such behavior was particularly true on the occasions mentioned, in view of the fact that rising interest rates in the United States were not accompanied by equivalent increases in foreign countries, with the result that the comparative advantage of borrowing in the American market was decreased. By contrast, domestic bond issues are not influenced to a similar extent by rising long term interest rates, because such increases are usually accompanied by an accentuated internal demand for capital, resulting from prosperous business conditions, that tends to offset the depressive influence of higher interest rates."

This hypothesis is certainly plausible. Yet the behavior of interest rates in the twenties gives it little support. Lary selects the average yields on 30 high grade corporate bonds (Moody's rating

[20] Op. cit., pp. 92-3.

Aaa) as "most nearly representing the trend in real interest rates in the United States".[21] The downward trend of this index (Chart 2) during most of our period (from the third quarter of 1920 to the first of 1928) corresponds well with the rising trend of foreign loans and may in some degree account for it. But the explanation of the three inverse cycles is a different matter.

Of the three contractions in foreign issues only the last, the collapse of 1928, was accompanied by hardening interest rates. From a trough of 4.51 percent in the first quarter of 1928 the index rises to a peak of 4.73 percent in the third quarter of 1929. This is too modest an advance to explain a decline in lending from $289 to $70 million. But it is at least a move in the direction that Lary's explanation leads us to expect. The sharp drop in foreign lending in 1922-23, however, occurred when interest rates were falling to their lowest point in 5 years. The following modest upturn of interest rates can hardly account for the sharp contraction in foreign lending that had preceded it by half a year. In 1925-26, finally, foreign issues contracted in the face of continually declining interest rates.

Thus the behavior of interest rates as represented by high-grade bond yields explains neither the cycles in foreign bond issues nor their deviations from the behavior of domestic bonds. Replacing moving averages by the raw data would not alter this result.

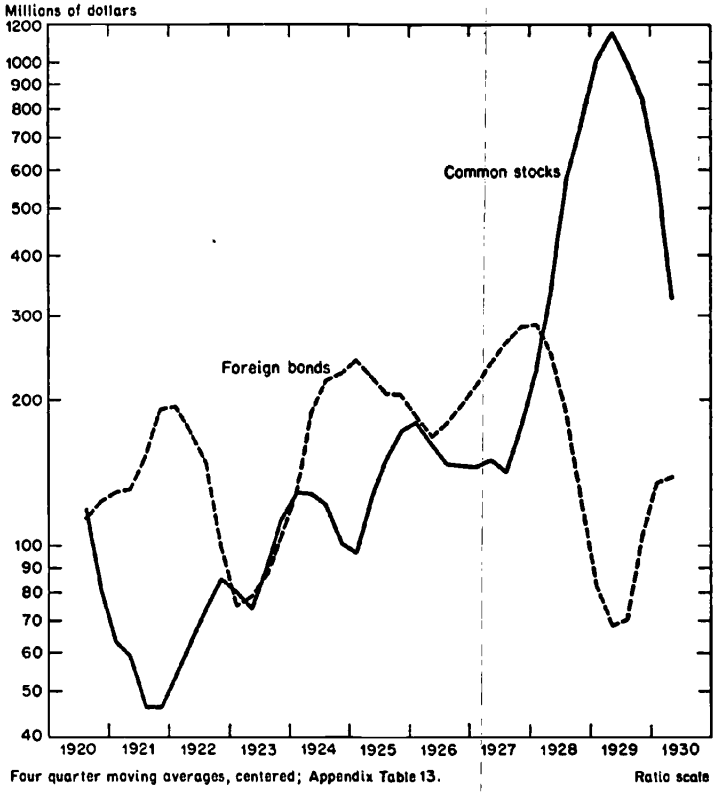
b) COMMON STOCK ISSUES AND FOREIGN BOND CYCLES

The explanation of the cyclical behavior of bond flotations must be sought in the differentials between expected profits and interest rates, not in interest rates themselves. During an upswing when people are optimistic about profits they invest in stocks, stock prices rise, and it becomes attractive to raise capital by equity financing. But this by no means implies that bond prices must fall. As long as credit expansion furnishes the new money for the stock market and credit policies prevent interest rates from rising, bond prices will hold their own or may even move slightly upward. Flotations of new bonds, however, will drop in such a period as high stock prices make stock issuing more attractive. During the downswing the situation is reversed.

[21] Ibid., p. 96.

Chart 3

Domestic Common Stocks and Foreign Government Bonds Issued in the United States, 1920–1930



The behavior of new common stock issues is most revealing in this connection. Chart 3 shows their striking inverse relation to foreign bond flotations during the entire period except in one year, 1923. The foreign series lags slightly at some turning points but otherwise mirrors closely the fluctuations in American common stock issues.

In the second half of 1920 and in 1921 the volume of stock issues declined while underwriting of foreign bonds rose despite the unfavorable conditions in most foreign countries. In 1922 stock issues went up and foreign bond issues promptly fell off.

The year 1923 represents the above mentioned exception: both curves first declined, then rose in almost exactly the same fashion.

This is the same year that was found exceptional with respect to relations between British and American issues (see above). It was the only time when a drop in American issues could be explained to some degree by a shift of borrowers to London. More important, however, was the extraordinary international situation. In January 1923 the French occupied the Ruhr and the final disintegration of the German currency began. Financial markets were alarmed by the 'reparations war' between France and Germany, and under this threat only a small amount of foreign bonds was offered. The same reasons may have been responsible also for the interruption to the upswing in American stock offerings; therefore, during the first half of 1923 the two series moved in the same direction. The shock caused by the turmoil in Europe was apparently strong enough to hamper investment in both domestic stocks and foreign bonds.

In the second half of 1923 the Allied Powers agreed to settle the problem of German reparations and established the Dawes Committee of experts for this purpose. Financial markets recovered rapidly and on the rising tide of investment activity, more stocks *and* more foreign bonds were floated. But for only a short while. By the beginning of 1924 the inverse relation had reasserted itself and prevailed until the end of our period.

In 1924 the acceptance of the Dawes Plan by Germany's reparation creditors and the stabilization of the German currency made a good impression. Foreign lending expanded and stock flotations dropped in the general slump of 1924. That the latter may have had more influence on the expansion of foreign issues than the Dawes Plan is suggested by the developments of 1925 when the foreign situation improved further. The signing of the Locarno Pacts promised well for peace and many countries reestablished the gold standard, yet foreign issues shrank while those of domestic stocks increased.

In 1926 and through most of 1927 domestic stock issues moved downward and foreign bond issues upward. The latter reached their peak in the first quarter of 1928, half a year after domestic stock issues had begun to turn up.

In the next 5 quarters stock issues increased fourfold while

foreign bond issues dropped to one-fourth of their volume. Evidently the striking coincidence of these developments was due to the preference of the American public for speculative shares. The market for new foreign bond issues stumbled under the shock of the speculative boom, though prosperity continued in most countries. The *Handbook on American Underwriting of Foreign Securities* stresses the restrictive influence of American money market conditions upon American underwriting of foreign securities in 1929 (p. 38). But it says also: "adverse political and economic conditions abroad were among the chief causes for the sharp decline" of foreign lending. It refers to the tardiness of the Young Plan negotiations and the decline in the price of some agricultural products. But these are hindsight considerations; actually conditions in 1928 and 1929 seemed prosperous, and it was not skepticism about the situation of the debtor countries but the nationwide speculation in stocks that apparently stopped foreign lending. Indeed, at the very moment in the second half of 1929 when the volume of new domestic stock issues began to fall, foreign issues immediately reappeared.

Thus, except for 1923 and some short lags at the turning points, foreign bond flotations moved counter to domestic common stock issues. Even when the situation abroad was definitely favorable, foreign bond issues declined when domestic stocks expanded, and increased despite unfavorable conditions in the borrowing countries when American stocks made fewer claims on the market.

The question remains why fluctuations in the ratio of expected profits to interest rates should have affected domestic bonds less systematically than foreign bonds. We suggest two possible explanations. First, the higher yields of foreign bonds appeal to the investor who is willing to take greater risks for the sake of larger returns. He is the type of investor who buys common stock also. Consequently, foreign bonds are more sensitive to fluctuations in the stock market than domestic bonds which are more independent, as they are bought in part by a different class of investors. Second, when domestic business improves, investors in general are likely to prefer domestic to foreign securities, and vice versa. This may be another force of considerable importance discouraging

foreign flotations during business expansions and stimulating them during contractions; domestic issues are under the opposite influence. In short, foreign bonds are tied closely to domestic business cycles both because they are foreign and because they are bonds.

These tentative conclusions must suffice here. A full analysis still needs to be worked out, especially as to how changes in the character of investor demand are transmitted to foreign issuers. Moreover, it would be well to supplement the analysis of foreign bond cycles by an examination of fluctuations in foreign equity investment. Unfortunately, too few shares of foreign corporations were issued in the United States for reliable conclusions. From 1920 through 1925 there were only 8 offerings. The number increased during the next 4 years, especially in 1928 and 1929, but the total par value for the decade 1920-29 was only $122 million (Table 5). Foreign stock issues declined invariably when foreign bond issues expanded and, in every year except 1929, rose when bond issues dropped. This agrees with our interpretation of foreign bond cycles, but the observations are too few to have much significance.

Table 5

Foreign Common Stock and Foreign Government Bonds Issued in the United States

Year of Issue	*Stocks*	*Bonds*	*Stocks*	*Bonds*
	($ million)		(year to year change)	
1920	7	439		
1921	0	532	−	+
1922	0	660	0	+
1923	10	303	+	−
1924	0	912	−	+
1925	10	818	+	−
1926	11	673	+	−
1927	9	1,023	−	+
1928	41	875	+	−
1929	34	253	−	−

Bonds: See Table 3.

Stocks: Department of Commerce, *Handbook on American Underwriting of Foreign Securities* (1930), Tables 5 and 7, pp. 15, 17: 'Foreign Corporate Common Stocks' minus 'Common Stock Issues of American and Semi-American Corporations for Non-Domestic Purposes'.