

INTERNATIONAL FINANCE DISCUSSION PAPERS

COMPARING U.S. COMPANY BOND ISSUE COSTS
IN THE U.S. AND EURO-BOND MARKETS

by

Rodney H. Mills, Jr.

Discussion Paper No. 49, June 28, 1974

Division of International Finance
Board of Governors of the Federal Reserve System

The analysis and conclusions of this paper represent the views of the author and should not be interpreted as reflecting the views of the Board of Governors of the Federal Reserve System or its staff. Discussion papers in many cases are circulated in preliminary form to stimulate discussion and comment and are not to be cited or quoted without the permission of the author.

R. H. Mills, Jr.
June 20, 1974

COMPARING U.S. COMPANY BOND ISSUE COSTS
IN THE U.S. AND EURO-BOND MARKETS

I. Introduction

Removal of the Interest Equalization Tax (IET) in the United States on January 29 of this year restored to U.S. investors freedom to purchase bonds issued by any foreign issuer, or by U.S. companies in the Euro-bond market, without paying a penalty. The termination of the Foreign Direct Investment Program (FDIP) on the same date gave to U.S. direct investors full freedom to choose whether to draw on U.S. markets or foreign markets to finance their foreign investment outlays. These actions increased the potential for capital outflows from the United States in response to differentials in investor yields on U.S. and foreign (including Euro-) bonds, and in costs paid by U.S. or foreign companies for long-term funds.

To date, the impact of the removal of the IET appears to have been very limited. Only three bond issues, totaling \$85 million, have so far been arranged in the United States by borrowers formerly subject to IET. Several other issues by borrowers in this category have been planned but have been postponed because of rapidly rising borrowing costs or because the premium needed to be paid by foreign borrowers as such was initially underestimated. Nor has there been any surge in purchases by U.S. residents of outstanding foreign bonds, even U.S. company dollar Euro-bonds yielding more than the domestic bonds of the same companies.

Recourse to the Euro-bond market by U.S. companies fell off drastically after February 1973, when the U.S. Government announced its intention to abolish capital controls by the end of 1974. Many U.S. direct investors who otherwise would have gone to that market decided not to do so because of one of ~~two~~ reasons. Either they believed they could profitably postpone some investments until they could finance them more cheaply in the United States after FDIP termination, or they preferred to obtain Euro-dollar term loans, at variable rates of interest, to long-term bond financing at a time of historically high interest rates.

After the end of the FDIP, no U.S. company raised funds in the Euro-bond market for nearly four months because of the higher level of borrowing costs in that market compared with the U.S. bond market. However, the extraordinarily rapid rise in interest rates in the United States from February to May of this year caused borrowing costs in the U.S. market to rise relative to the Euro-market -- where costs increased substantially in their own right -- and by the end of April it would appear that straight-debt costs for U.S. companies were close to equality in the two markets. In late May, Pacific Lighting had an issue of 7-year notes in the Euro-market.

Whether costs that U.S. firms would have to pay to float straight-debt Euro-bonds will remain sufficiently close to U.S. costs to keep the differential between them a subject of current interest cannot be foreseen. At most times, U.S. borrowing costs have been considerably lower than Euro-market costs. But there may well be some merit in discussing important aspects of the statistical series available at the present time for comparing

straight-debt costs. Similar comparisons for foreign, rather than U.S., borrowers would be of interest as well; but the dearth of foreign borrowing in the U.S. capital market in the past ten years, because of the IET, has prevented experience necessary for such comparisons.

II. Borrowing Costs in the United States

For measuring the cost of raising long-term funds in the United States, standard bond new issue yields have been developed at the Federal Reserve Board. While Moody's has also constructed new issue yield series for various classifications and ratings of borrowers, these series suffer severely from the disadvantages arising from the fact that, for periods even as long as a month, the number of new issues in a given category and grade is usually small and is often nil. For example, for the Aaa and Aa grades of industrial bonds, the category of interest for present purposes, there is no yield statistic at all for more than one-half of the months in the past five years. And changes in those yields that do appear cannot fail to reflect changes in individual borrower situations and other individual bond characteristics, such as call provisions, that in a large sample of issues would tend to cancel out.

The Federal Reserve standard bond new issue yield series attempt to overcome this problem by making use of three Moody's ratings (Aaa, Aa, and A) of both public utility and industrial bonds of 20 or more years to maturity issued each week, to construct a yield on a hypothetical bond with assumed characteristics.^{1/} This is done by estimating the relationships

^{1/} See James L. Kichline, P. Michael Laub, and Guy V. G. Stevens, Obtaining the Yield on a Standard Bond from a Sample of Bonds with Heterogeneous Characteristics, Staff Economic Studies No. 77, Board of Governors of the Federal Reserve System.

between new issue yields and a number of bond characteristics, including default risk (represented by Moody's ratings by quality), classification (industrial, telephone, or other utility), the number of years of call protection, and the method of underwriting.^{2/} Thus, the yield on any individual issue (within the set of issues being utilized) can be adjusted when necessary to reflect assumed characteristics different from those actually present for that issue, and these yields (adjusted or unadjusted as the case may be) then averaged for the week. The Federal Reserve Bulletin publishes a weekly average yield on a Aaa utility bond (not issued by a telephone company) with 5-year call protection and underwritten by competitive bidding. But this basic series can be adjusted to give yields on standard bonds with other combinations of assumed features, e.g., a Aa industrial bond with 10-year call protection also competitively underwritten. Several adjustments are necessary for making the cost comparisons considered in this paper.

III. Borrowing Costs in the Euro-Bond Market

There is no statistical series for average new issue yields on Euro-bonds floated by U.S. companies (or any other group of Euro-market borrowers). The limited number of borrowers and their heterogeneous quality would mean that changes in any such average yield would reflect individual company situations, and a shifting quality of borrowers, in addition to

^{2/} Differences in maturity among bonds with a maturity of 20 or more years were assumed to have no effect on yields.

changes in bond market conditions. Morgan Guaranty Trust Co. publishes an average yield, at month-end dates, on a sample of ten U.S. company Euro-bond issues that have been outstanding for at least a year. Since Euro-bonds are normally issued for 15 years maturity and since the average yield is intended to reflect "long-term" yields, an individual bond does not remain in the sample more than a few years. This series can be used as a proxy for a new issue yield series, even though yields on seasoned bonds are not a perfect instrument in this respect. The usual reasons for this inadequacy of seasoned bond yield series are: 1) that non-current coupon rates tend to be reflected in premiums or discounts from par in bond prices, thereby affecting prospective capital gains and losses, the bond holders' prospective tax liabilities, and the market prices of the bonds themselves; 2) that investors are slow to react to changes in bond market conditions, so that a series of seasoned bond yields will lag behind a new issue series; 3) that if there are inactive markets for some issues included in a composite yield, this requires the use of fictitious quotations.

A problem with the Morgan Guaranty series is that, because of the limited number of issues to choose from, the composition of the sample may change quite sharply from year to year as individual issues are withdrawn from it and replaced by others with different maturity or quality. This complicates the task of comparing yields over time. Morgan Guaranty changes the sample yearly but computes yields from a given sample over a two-year period, so that for each year there is a one-year overlap. The composition

of the sample, based on Moody's ratings of the domestic debt of the companies represented, was as follows in 1969-74:

	<u>Number of issues per rating</u>			
	Aaa	Aa	A	Baa
1969 - 70	4	3	3	0
1970 - 71	4	4	2	0
1971 - 72	2	4	3	1
1972 - 73	3	2	5	0
1973 - 74	3	1	6	0

Bondtrade also publishes an average yield, weekly, on a sample of outstanding Euro-bonds. However, the sample includes bonds of both U.S. and non-U.S. issuers and thus cannot be used to make direct comparisons with yields on domestic U.S. issues.

IV. Comparing Costs

To compare investor yields, the main element in borrowing costs, on new issues in the United States with yields on U.S. company Euro-bonds as published by Morgan Guaranty, it is necessary to construct, for new issues in the United States, an average yield on a sample of bonds similar to the Morgan Guaranty sample. (As noted, for each year prior to the current year there are two Morgan Guaranty samples; we here use the later of the two in our calculations). Bonds in the Morgan Guaranty samples are issued by industrial companies. To obtain the comparable average new issue yield for

for the U.S. market, Federal Reserve new issue series for Aa, Aa, and A industrial bonds can be used to get a weighted average in which the weights correspond to the representation, in the Morgan Guaranty sample, of the various Moody's ratings of the companies' domestic debt.^{3/}

The Federal Reserve industrial bond yields used to obtain this weighted average yield should be calculated on the assumption of 10-year call protection, since that is typical for such bonds.^{4/} Although all, or almost all, of the Euro-bond issues have an original maturity of 15 years, shorter than for the U.S. bonds, the flatness of the U.S. yield curve beyond 10 years suggests that this difference in typical maturity does not vitiate comparison of the two series.

The accompanying table compares for 1969-74 the Euro-bond yield series with the weighted average U.S. new issue series for industrial bonds, constructed as described above. The Euro-bond yields are for month-end dates and the U.S. new issue yields are for weeks covering end-of-month dates; for each series the quarterly averages shown for 1969-73 are averages of these once-a-month figures. The comparison shows that at most times it has been cheaper for U.S. companies to raise long-term funds in the U.S. market than in the Euro-bond market. The differential favoring borrowing

^{3/} There is no Federal Reserve series for Baa bonds, and when such a series should be used in the way described, the A series is used in its place. This substitution is encountered only in 1972.

^{4/} The assumption made about call protection is of crucial importance. In January-February 1974, the yield on a standard bond with assumed 10-year call protection was about one-half percentage point lower than the yield based on a 5-year call protection period; by the end of April the differential was about 70 basis points.

Table 2. Comparison of Euro-Bond and U.S. New Issue Yields
(in per cent per annum)

	(1) Euro-Bonds: U.S. Company Dollar Bonds ^{1/}	(2) U.S. New Issues: Avge. of 3 Ratings of Industrial Bonds ^{2/}	(3) <u>(1) - (2)</u>
1969 - I	7.27	7.06	.21
II	7.36	7.35	.01
III	7.61	7.83	-.22
IV	7.84	8.27	-.43
1970 - I	8.22	8.24	-.02
II	8.85	8.60	.25
III	8.76	8.43	.23
IV	8.32	7.87	.45
1971 - I	8.23	7.01	1.22
II	8.50	7.72	.78
III	8.82	7.55	1.27
IV	8.09	6.97	1.12
1972 - I	7.88	6.96	.92
II	8.00	7.04	.96
III	7.83	7.16	.67
IV	7.66	6.94	.72
1973 - I	7.73	7.16	.57
II	8.33	7.28	1.05
III	8.48	7.76	.72
IV	8.22	7.63	.59
1974 - Jan.	8.13	7.75	.38
Feb.	8.17	8.09	.08
Mar.	8.76	8.33	.43
Apr.	8.70	8.81	-.11

^{1/} The series used are Series D through H, each series being used for one year.

^{2/} Weighted average of Aaa, Aa, and A bonds, weighted by the rating representation in the Euro-bond series of the domestic debt of the companies in the sample.

Sources: Euro-bond yields, Morgan Guaranty Trust Co., World Financial Markets; U.S. new issue yields, Federal Reserve Board.

in the United States has been especially large at times when potential Euro-bond investors were least confident of the maintenance of the external value of the dollar. But at the end of April 1974 the yield comparison favored Euro-market borrowing by about 10 basis points.

Underwriting costs are the other element in total borrowing costs. At present coupon levels, the underwriting spread adds about 7-8 basis points to the annual interest cost on new industrial issues in the United States, but would add about 22 basis points on U.S. company Euro-bonds. Industrial companies in the United States with bond ratings of A or better typically receive a price $3/4$ per cent below the price paid by the public; in contrast, the underwriting spread in the Euro-bond market has been standardized at $2-1/2$ per cent. The difference in underwriting costs approximately offset the difference in yields in the investor at the end of April.