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Chapter 5

THE RISK PREMIUM

The interpretation of the deterioration of foreign lending will rest on firmer ground if it is preceded by a statistical investigation designed to reveal clues to the motivations of investors. One question concerning motivation can be answered by empirical analysis: the investors' awareness of the increasing riskiness of their new loans. Did they not know they were embarking on ever riskier investments or did they take risk into consideration and if so to what degree?

The investor's view of the quality of his investment, his estimate of risk, is reflected in the price charged for incurring risk, the risk premium that must be offered to induce him to invest. The 'risk premium' is the difference between the yield of a specific bond and the yield of a riskless bond of the same type.¹ It will be the wider the more risky a bond seems to investors. If investors were at all aware of the declining quality of foreign bonds, risk premiums would show a rising trend over the period.

In computing risk premiums on foreign bonds, riskless rates of return are represented by David Durand's 'basic yields', yields of the absolutely best corporate bonds of all maturities, that is, minimum yields. Although basic yields "are not the equivalent of a theoretically riskless rate of return, they probably do represent the closest approximation to that rate of return attainable by empirical observation." Basic yields were devised especially for the purpose of measuring risk: "The difference between the yield of any particular bond and the basic yield was conceived as a possible measure of the bond market's appraisal of risk."²

Basic yields also seem preferable, for our purpose, to indexes of

¹ Of course there is no absolutely riskless investment; 'riskless' applies to highest grade investments where risk is so low that it may be disregarded.

² Basic Yields of Corporate Bonds, 1900-1942, NBER, *Technical Paper 3* (1942), pp. 1 and 21.

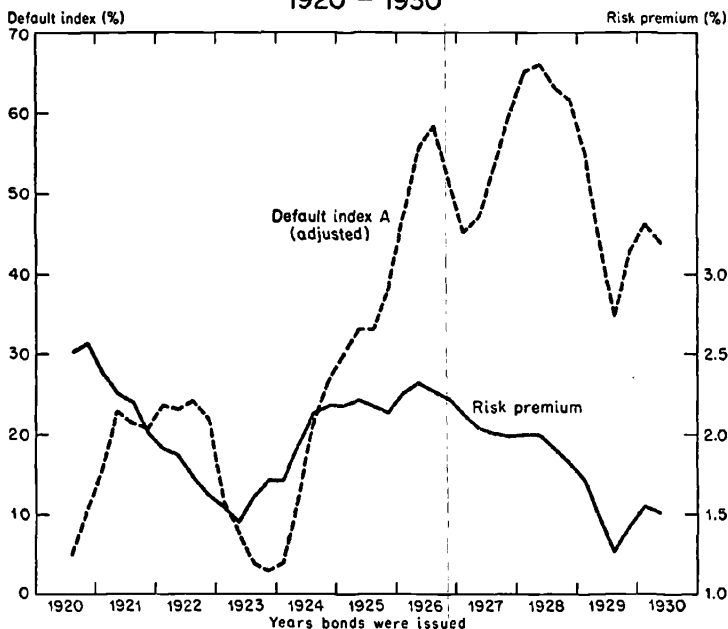
yields such as Moody's 'yields of 30 Aaa bonds', because the basic yields provide an array of riskless rates for bonds of different terms to maturity, whereas Moody's yield index is a single figure, constructed from bonds "of an average term of about 30 years". It is important to compare a given foreign bond with highest grade domestic bonds of the same term because maturities of foreign bonds ranged from 2 to 40 years and the corresponding difference in basic yields reached 1.55 points (in 1921). On the other hand, Durand's basic yields have the disadvantage of covering only the first quarters of calendar years; for the remaining three quarters interpolations have to be used which, of course, reduce the reliability of these data. But, all things considered, they still seem the best available indexes for the present purpose.

The average risk premiums plotted on Chart 9 are the moving averages of the weighted average differences between yields of new foreign bonds at offering prices and basic yields prevailing at the same time for bonds of like maturities. The par values of the issues serve as weights.

Among our foreign issues are several bonds on which the yield at offering is not known; therefore, a risk premium cannot be computed. These loans had to be omitted from the analysis of risk premiums, which accordingly is based upon a smaller sample than the default index. To make comparison precise we computed new default indexes for this smaller sample. They follow essentially the same course as those based on the complete sample — incidentally another indication of the stability of this measure. The two series, the risk premiums and the new default indexes, thus cover the same bond issues. One is an index of variations in the *ex ante*, the other an index of the *ex post* risk of new foreign issues.

For instance: for the first quarter of 1925 the risk premium, the measure of estimated or *ex ante* risk, was 2.18 percent; i.e., the average compensation necessary to induce American investors to assume the risks of foreign bonds issued in the first quarter of 1925 was a yield of 2.18 percent in excess of the yield obtainable on highest grade domestic bonds. The default index, the measure of actual or *ex post* risk, for the same quarter was 30 percent, showing that 30 percent of these same foreign bonds were unsound.

Chart 9
 Risk Premiums on Foreign Government Bonds Issued
 in the United States, and Default Index
 1920 - 1930



Four quarter moving averages, centered; Appendix Table 18.

Of course, this comparison is not designed to measure the extent to which losses were covered by risk premiums.³ We are not concerned with this question because answering it throws no light on changes in loan quality. There is no doubt that risk premiums of early loans covered a larger part of losses than those of later ones, since loss depends so largely on the time interval between flotation and default. Nothing could be gained by proving this obvious fact. What matters here is only the change in the relation of the risk premium to the default index, since this is an indicator of the change in investors' attitudes.

The contrast between the rapid rise in the riskiness of loans and the relative stability and, in 1927-28, even downward tendency, of risk premiums is striking (Chart 9). Between 1925 and 1926

³ For a detailed analysis of the financial outcome of the loans, based on the situation at the close of 1935, see Madden et al., *op. cit.*, Ch. VIII.

the default index rose from 30 to 58 percent, while the risk premium advanced only a trifle — from 2.18 to 2.32 percent. And the last climb of the default index to its peak, 66 percent in 1927-28, occurred while the risk premium sank to 2.00, a level considered adequate in 1921 or in 1924 for investments of much higher quality.

Evidently, investors not only were unaware of the increasing riskiness of new foreign issues but even grew more confident at the very time the quality of new bonds was lowest. This finding will help us to interpret the deterioration of foreign credit; we shall use it in the next chapter.⁴

⁴The *Handbook* (op. cit., p. 44) offers an index of the "excess of the average yields on new foreign bonds over the average yields on high-grade domestic bonds." Its fluctuations are not very different from those of our risk premiums, though its construction differs in several respects: It refers to all foreign securities listed in the *Handbook*; it utilizes the Standard Statistics index of 60 high-grade domestic bonds; it does not take account of the maturity dates of the foreign bonds; it is an annual index.