The changes that followed the declining growth in the mid-1970s set in motion a series of policy changes. Interest-rate ceilings are gradually being removed, and the remaining ceilings are now adjusted more frequently to reflect market rates. A greater variety of securities is now available. Additionally, restrictions on international capital movements are gradually being removed. Whether these changes imply that the rate-of-return advantage enjoyed by Japanese corporations will disappear is unclear. However, the mechanism through which the Bank of Japan will operate must change.

Summary

We have examined evidence of whether particular financial factors could explain a Japanese edge in investment over the U.S. While the tax codes differ between the two countries, there is no consensus that Japanese corporations are less burdened by taxes. Evidence is mixed on the question of leverage and, in any case, we argue that greater lev-
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Address Correction Requested: Please send corrected mailing label to Federal Reserve Bank of Cleveland, Research Department, PO. Box 6387, Cleveland, OH 44101.
Baldwin calculates risk-adjusted rates of return on portfolios comprising stocks and bonds for both Japan and the U.S. and finds no significant differences between the two countries (see chart 2). Taking into account differentials in the tax systems does not alter this conclusion.

**Table 2: Debt-Equity Ratios for the United States and Japan**

<table>
<thead>
<tr>
<th>Year</th>
<th>United States</th>
<th>Japan</th>
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<tbody>
<tr>
<td>1980</td>
<td>1.910</td>
<td>1.340</td>
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<tr>
<td>1981</td>
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<tr>
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<tr>
<td>1986</td>
<td>1.910</td>
<td>1.340</td>
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The explicit, real cost of debt can be calculated with high-grade bond yields minus the expected inflation rate. In table 2 we present real interest rates calculated with high-grade bond yields and actual inflation rates (see Hattoupolis, p. 11). From 1970 to 1984, the rates were nearly level.

The explicit cost of equity is more difficult to measure. Its two components—dividends and capital gains—are determined by the stock market and are not necessarily closely related. Over several years.

The structure of corporate ownership relations and the characteristics of financial markets imply lower agency costs in Japan. Unlike U.S. banks, Japanese banks can own up to 3% of the equity of manufacturing corporations. Another distinguishing characteristic is that Japanese corporations are more reliant on bank loans and so-called “interest-free debt.”

Interest-free debt refers to items such as accounts payable and trade credits that do not entail explicit interest payments. A greater reliance on interest-free debt in Japan has also been documented by Hattoupolis. Some forms of interest-free debt are peculiar to the Japanese financial system. Japanese corporations can utilize a variety of tax-free reserves that can be considered interest-free loans from the government. According to Hayashi (1985), in 1981 the six largest reserves available to Japanese corporations amounted to 10.7% of the total market value of debt.

A greater reliance on interest-free debt and, possibly, a greater reliance on debt in general cannot explain a Japan-U.S. difference in leverage for two reasons. First, although some forms of debt are free of explicit interest payments, they nonetheless entail opportunity costs. Thus, studies that give capital correspond to the ex-ante, or required, cost of capital.

In this section, we examine the relative pre-tax required rates of return on debt and equity. As we have argued, the implicit, agency, or expected bankruptcy costs should be lower in Japan. In this section, we examine the relative size of the expected costs.

The explicit cost of debt can be underestimated because the expected inflation rate is lower in Japan. The explicit, real cost of debt is not the nominal interest rate minus the expected inflation rate. In table 2 we present real interest rates calculated using high-grade bond yields and actual inflation rates (see Hattoupolis, p. 11). From 1970 to 1984, the rates were nearly level.

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Table 2

<table>
<thead>
<tr>
<th>Years</th>
<th>United States</th>
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<tr>
<td>1970</td>
<td>3.3</td>
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<tr>
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<tr>
<td>1978</td>
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<tr>
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</tr>
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<td>5.1</td>
</tr>
<tr>
<td>1984</td>
<td>9.5</td>
<td>5.5</td>
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</table>


Explanations of the lower pre-tax required rates of return in Japan focus on lower interest rates. Lower interest rates should be accompanied by lower equity yields through an arbitrage process that equates the after-tax rates of return on alternative assets to investors. The low-interest-rate policy of the Japanese government has been well-documented. The key element in this policy, as of 1983, was the maintenance of low interest rates for savings deposits, dividend rates on loan trusts, and yields on government bonds, and yields on financial transactions.

The other key element in the low-interest-rate policy is the structure of capital markets, which has segmented Japanese capital markets both domestically and internationally. The restrictions weakened the tendency for Japanese corporations to move with comparable interest rates abroad and helped to maintain low interest rates, even in countries with higher required rates of return in general.

The close linkages among the Bank of Japan, the financial institutions, and the large industrial corporations are the institutional mechanisms through which the low-interest-rate policy operated. The first critical link is between Japanese corporations and the Bank of Japan. Another one of the most noted aspects of Japanese corporate finance has been the existence of "firewalls" that separated the Japanese financial system from the international capital market. In Japan, the financial institutions of the Bank of Japan have provided a technical framework for the rapid development of financial institutions, an essential element for the growth of financial institutions in the international capital markets as well. The second critical link is between Japanese banks and the private sector.
The changes that followed the declining growth in the mid-1970s set in motion a series of policy changes. Interest-rate ceilings are gradually being removed, and the remaining ceilings are now adjusted more frequently to reflect market rates. A greater variety of securities is now available. Additionally, restrictions on international capital movements are gradually being removed. Whether these changes imply that the rate-of-return advantage enjoyed by Japanese corporations will disappear is unclear. However, the mechanism through which the Bank of Japan will operate must change.

Financial Liberalization

In the mid-1970s, significant changes began that may decrease the ability of the Japanese government to control the total amount of credit. In addition, it has given city banks preferred access to low-rate funds. This combination of policies has guaranteed a relatively high degree of control over the total amount of credit available to large industrial corporations. The close working relationships between the banks and the corporations are also responsible for lower agency costs and for lower expected bankruptcy costs.

Summary

We have examined evidence of whether particular financial factors could explain a Japanese edge in investment over the U.S. While the tax codes differ between the two countries, there is no consensus that Japanese corporations are less burdened by taxes. Evidence is mixed on the question of leverage and, in any case, we argue that greater leverage is not necessarily a benefit. Pre-tax required rates of return, agency costs of debt, and the expected bankruptcy costs of debt, however, are lower in Japan. In large part, these advantages are a result of unique relationships in Japan among the banks and the larger corporations.

The lower required rates of return have largely been the result of market capital controls and of the low-interest-rate policy followed by the Bank of Japan. The ongoing process of financial liberalization, however, may tend to further equalize capital costs between the U.S. and Japan.

References


The following studies have contradicted earlier conclusions: Ando and Auerbach (1985), for example, estimate costs of capital by using balance sheet data. As they admit, they are thus calculating ex-post (realized) rates of return rather than ex-ante (expected) rates of return. Their rates would be more consistent with the concept of the cost of capital. They find that, for the companies in their sample, the median costs of capital are 7.5 percent for Japan and 9.4 percent for the U.S.

The dramatic loss of U.S. international competitiveness in manufacturing industries has been of increasing concern to U.S. policymakers. A particular focus of this concern has been the relative success of Japanese manufacturers. Proposed policy actions to offset the losses have ranged widely, from manipula- tion of exchange rates, to tax reform, to policies aimed at altering the level of interest rates.

The loss of American competitive- ness seems most acute in capital-intensive industries: industries in which cost reduction and product improvement require high rates of investment in both tangible and intang-ible assets. Possible explanations are in 1) the cost of capital is lower in Japan, 2) Japanese manufacturers utilize greater amounts of low-cost debt, 3) tax rates are relatively burdensome in the U.S., and 4) interest rates and other pre-tax required rates of return are lower in Japan.

In this Economic Commentary, we discuss recent evidence on the impor- tance of particular financial factors in explaining the Japanese edge. Overall, evidence on the importance of particular financial factors is mixed, due to the variety of studies that have gone about addressing these issues. We conclude that, contrary to popular belief, 1) there is inconclusive evidence that the cost of capital in Japan is low enough to explain a Japanese edge, 2) Japanese reliance on "low-cost debt" is not great enough to explain an advantage, and 3) the U.S. and Japanese tax codes are not different.

The financial liberalization process in the mid-1970s significantly changed the way banks and corporations in Japan and the U.S. approached capital markets. The Bank of Japan has kept the dis- tance rate below the interbank loan rate. In addition, it has given city banks preferred access to low-rate funds. This combination of policies has guaranteed a relatively high degree of control over the total amount of credit available to large industrial corporations. The close working relationships between the banks and the corporations are also responsible for lower agency costs and for lower expected bankruptcy costs.