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Taxation and the Location of Investment Abroad

If a foreign nation gives a good tax deal to an American multinational corporation, it likely will invest more money in that country, implies a study by NBER Research Associates **Daniel J. Frisch** and **David G. Hartman**. In *Working Paper No. 1241, Taxation and the Location of U.S. Investment Abroad*, the authors consider the fact that many nations compete for foreign investment by offering special tax breaks to new firms, but some analysts have questioned whether this is a waste of tax dollars, or whether company executives indeed pay attention to tax levels when making their investments. The analysis by Frisch and Hartman, although not capable of separating temporary tax incentives for new investments from permanent tax levels, does show that higher aftertax returns on investment actually do draw more investment money.

"A significant part, though far from a majority, of the pattern in foreign direct investment across industries and countries can be accounted for by net rate of return incentives," the authors write. Their work further shows that both the gross rate of return and the tax rate significantly affect investment. An increase of one percentage point in the net rate of return (say from 10 to 11 percent) caused by a decline in the effective local corporate tax rate boosts investment in that country by more than 30 percent over a four-year period, they find. Similarly, industries with higher rates of return (or lower tax levels) attract more investment.

To reach their conclusions, Frisch and Hartman look at investment over the 1968-72 period in 16 countries (Canada, Mexico, Argentina, Brazil, Venezuela, Belgium, France, Italy, Netherlands, West Germany, Spain, Switzerland, United Kingdom, South Africa,

Japan, and Australia) across 15 industry groups (including food and kindred products, lumber and paper products, printing and publishing, and scientific equipment).

Tax treatment of multinational countries by the United States is based on the foreign tax credit system. Multinational firms take a credit against their U.S. tax liability for taxes they paid to foreign nations. In its purest form, the two authors note, this foreign tax credit mechanism would ensure that the net tax rate on all income of U.S. firms would be equal to the U.S. tax rate, no matter where the investment took place. If that were so, the tax rates in the host countries would be irrelevant.

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"In fact," Frisch and Hartman write, "actual U.S. tax practice is far removed from an idealized foreign tax credit mechanism. A major departure is that U.S. tax is not collected until income is repatriated from abroad to the U.S. parent firm." This deferral of U.S. taxes means that "foreign income tax rates definitely do turn out to matter; in fact, they may be of overriding importance."

For instance, if a firm already has an investment abroad, it must decide whether to reinvest earnings or repatriate them. For the maximum advantage, it

should compare net rate of return of foreign investment in different countries and the rates of return available in the United States. It should ignore the withholding taxes imposed by some foreign countries on repatriation of earnings, or any residual tax liability imposed on dividend payments by the U.S. government.

If a firm is sending investment money abroad, it should consider that when it repatriates the resulting earnings it may face additional withholding taxes and U.S. income taxes, the authors continue. The calculation of aftertax rate of return in this case is highly complex, depending upon the planned timing of future repatriation of earnings.

Such factors complicate the authors' analysis of U.S. Treasury Department data for U.S. multinationals on assets, earnings and profits, taxes paid, a summary of intrafirm transactions, and other figures for every foreign subsidiary for the years between 1968 and 1972. The data, made available recently, are far from ideal but are a considerable improvement over previously available sources in that they provide country and industry detail, the authors say.

One key finding of the study is the average, effective foreign tax rates for each country and industry. Frisch and Hartman find that the gross rate of return and foreign tax rates do vary considerably among nations and industries, and that these differences do affect investment flows. Local withholding taxes on dividend payments and U.S. taxes net of foreign tax credits, however, do not appear to be important determinants of the location of investment. DF

The Forecasting Ability of Money Market Managers

A new study of the forecasting abilities of managers of money market funds suggests that they are less able to foresee changes in interest rates than earlier research had indicated. **The Forecasting Ability of Money Market Fund Managers and Its Economic Value**, NBER Working Paper No. 1243, by Alex Kane and Young Ki Lee, finds that a small fraction of fund managers apparently do have potentially valuable forecasting skills. However, even they generate only negligible value for investors because they change the maturity on too small a portion of their portfolios in advance of anticipated rate changes.

The keen competition among money market funds for the investor's dollar leads to questions about one

type of macroforecasting—the ability to foresee short-term movements in the yield curve and switch profitably between shorter- and longer-term maturities. In earlier work, M. G. Ferri and H. D. Oberhelman correlated changes in the average maturity of money market funds with subsequent changes in short-term interest rates and concluded that, on average, fund managers exhibit a significant ability to forecast changes on rates. For their paper, Kane and Lee employ a different methodology to avoid what they see as a number of pitfalls in Ferri and Oberhelman's work. First, they examine the performance of individual money market funds instead of an aggregate portfolio of funds. They demonstrate that aggregating funds can make the managers as a group look better than the actual performances of the individual managers.

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Kane and Lee explore the performances of 34 money market funds for 1978 through 1981. Like Ferri and Oberhelman, they assume that the forecasting ability of managers manifests itself in changes they make in the maturity of their portfolios. However, they also show that correlating maturity changes with subsequent changes in the yield of maturity of 90-day securities can sometimes give misleading results. Kane and Lee look only at maturity changes in periods that were followed by two confirming events—a change in the yield to maturity on 90-day paper and a change in the relative rates of return on 30- and 90-day securities.

The choice of securities can also affect measured forecasting ability. Money market funds mainly hold Treasury bills, bank certificates of deposit, and commercial paper. The three types of securities often give conflicting prescriptions. That is, the movement of CD rates may indicate that managers should have lengthened maturity in the preceding period, while T-bills indicate they should have shortened. To eliminate those biases, Kane and Lee restrict their sample periods to weeks followed by ones in which all three securities, measured by both tests, indicated that managers should have changed their maturity structures. Over the four-year period, there were 69 weeks in which that happened.

To measure the potential value of perfect foresight by fund managers, Kane and Lee compute the annual realized returns over the period for three strategies: holding 30-day T-bills, holding 90-day bills, and holding the one with the higher return for each week. For the overall period, the returns were 10.26

percent for 30-day bills and 10.80 percent for 90-day bills, with the difference of 0.54 of a percentage point per year representing a risk premium. The rate of return with perfect foresight was 12.28 percent, or 2.02 percentage points higher than 30-day bills. That would be a risk-free premium to anyone who actually had perfect foresight.

Using the 69 weeks when subsequent events unambiguously indicated that managers with foresight should have changed the maturities of their portfolios, Kane and Lee's tests indicate that the average forecasting ability of the 34 funds was measured at 11 percent of their potential value. In other words, if the managers had shifted all their funds to the shorter or longer benchmark securities, according to their forecasts, they would have captured 11 percent of the premium for perfect foresight. The estimates for the overall period suggest that eight managers exhibited forecasting ability that was significantly different from zero. The statistics indicate that the eight had the ability, if they had shifted their entire portfolios, to capture 22 percent to 63 percent of the forecasting premium. Kane and Lee conclude that the question of whether the forecasting ability demonstrated by the funds is mere happenstance cannot be answered with confidence, but the evidence favors the hypothesis that a small number did possess superior forecasting skills.

Kane and Lee also estimate the returns that funds might have reaped from their forecasts. The actual changes in the average maturities of the portfolios were so small that any incremental returns would have been infinitesimal. Kane and Lee conclude that even if some managers do have superior forecasting abilities, they either lack confidence in or recognition of their own skills, or are prevented by institutional constraints from exploiting those skills. AE

The Dynamics of Poverty Spells

"The majority of poor persons at any point in time are . . . in the midst of a rather long spell of poverty," NBER Faculty Research Fellow **David T. Ellwood** and **Mary Jo Bane** write in **Slipping Into and Out of Poverty: The Dynamics of Spells**. But most of those who ever become poor will have only a short stay in poverty, according to these authors of *NBER Working Paper No. 1199*.

For their study of poverty, Bane and Ellwood focus on "spells," or continuous periods during which income falls below the poverty line. They use data from the Panel Study of Income Dynamics but exclude people over age 65 from their sample. Unlike some researchers who have studied poverty, Bane and Ellwood look at individuals rather than households.

First, the authors consider the length of poverty spells for different groups of people. They observe that "the longer a person has been poor, the less likely it is that he or she will escape poverty." For example, 59 percent of people who have just begun a spell of poverty will see it end within two years, but only 27 percent of people who have been poor for three years will see an end to their poverty spell within the next two years.

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Most spells of poverty are quite short: nearly 40 percent end within a year, two-thirds end within three years, and only 15 percent of poverty spells last more than eight years. Yet the small fraction who will have spells lasting eight years or more make up 60 percent of all those people identified as poor at any point in time. This seemingly paradoxical finding arises because each person with an eight-year spell accounts for eight times as much poverty as a person with a one-year spell. Bane and Ellwood find that the shortest poverty spells, averaging less than three years, typically begin when a child leaves home and becomes either the head of a family or a wife. The longest spells, averaging over seven years, are those that begin at birth.

What events drive people into poverty? Perhaps surprisingly, only 37 percent of poverty spells begin with a drop in the earnings of the household head; still, that is the largest single cause of movement into poverty. Fourteen percent of poverty spells begin with a drop in the earnings of the wife or another member of the household. So, changes in earnings account for about half of all poverty spells.

The other half of spells is related to changes in family structure or events in the life cycle. Transition into a family headed by a female accounts for 11 percent of the beginning of poverty spells. Among poor families headed by women, the push into poverty was typically a separation or divorce or the birth of a child to an unmarried woman.

How then do people get out of a poverty spell? Overwhelmingly, through an increase in the house-

hold's earnings. Over 57 percent of spells end with an increase in the earnings of the household head. Another 23 percent end with an increase in the wife's, or other household member's, earnings. Thus, changes in earnings account for about 80 percent of the movement out of poverty.

Bane and Ellwood conclude their paper with an

observation that provides a challenge for policymakers: the poverty population is extremely heterogeneous. It includes young, old, black, white, married, single, and people with and without children. Blacks and children tend to have relatively long spells of poverty. And, among children who are in a poverty spell, 20 percent began that spell at birth.

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