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## Is Corporate Diversification Good for Shareholders?

Securities markets consistently put lower values on diversified companies than on specialized firms, according to a new NBER study by **Larry Lang** and **René Stulz**. The apparent reason for this “diversification discount” is that firms diversify when they no longer have growth opportunities in their own industries.

In **Tobin's Q, Corporate Diversification, and Firm Performance** (*NBER Working Paper No. 4376*), Lang and Stulz analyze a sample of more than 1400 large companies from 1978 through 1990. They compare a measure of market valuation known as Tobin's *Q*—the ratio of the market value of the firm to the replacement value of its assets—to three different measures of diversification. If diversification contributes value, it should be as an intangible asset that increases market value relative to replacement cost. The authors find the opposite result: the highly diversified firms have significantly lower average and median *Q*-ratios than companies that engage in a single line of business.

Lang and Stulz test whether their results are influenced by industry effects. It could be, they note, that diversified firms are concentrated in industries with fewer growth opportunities. They find that industry effects do account for part of the diversification discount. But after taking into account industry effects, firm size, the amount of research and development the firm engages in, and its access to financial markets, Lang and Stulz still find that diversified firms are valued less than specialized firms.

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Their evidence supports the view that diversification is not a successful path to higher corpo-

rate performance. Whether diversification lowers performance, however, is unclear, since firms in the sample that become more diversified appear to perform poorly before the diversification as well. "A plausible explanation," Lang and Stulz conclude, "is that diversifying firms seek growth through diversification because they have exhausted growth opportunities in their existing activities." The authors confirm that diversification became less popular in the 1980s. For their sample, the number of highly diversified firms as a fraction of specialized firms fell from one-half to one-sixth. RN

## Minimum Wage Increases in the Early '80s Were Linked to Job Loss

In January 1980, the federal minimum wage increased by 20 cents, from \$2.90 to \$3.10 per hour; a year later it increased an additional 25 cents. Now a recent NBER study by **Janet Currie** and **Bruce Fallick** finds that workers affected by these minimum wage increases were 3 to 4 percent less likely to be employed a year later than other workers.

In **A Note on the New Minimum Wage Research** (*NBER Working Paper No. 4348*), Currie and Fallick find that this result holds even after accounting for the fact that workers employed at the minimum wage may differ from their peers in unobservable ways. The authors find no consistent evidence that the minimum wage had a positive effect on the wages of workers who remained employed a year later, though.

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Currie and Fallick use individual data from the National Longitudinal Survey of Youth. Following Peter Linneman's 1982 study of the effect of the 1974 change in the minimum wage on the employment of adults, they consider workers to have been "bound" by the change in the minimum wage if they received less than the new minimum, but not less than the old minimum, in the base year. By this measure, 20 percent of the

sample was bound by the 1980 increase, and 25 percent of the sample by the 1981 increase.

Currie and Fallick's estimates are consistent with those of previous studies of the 1970s and early 1980s that indicate that a 10 percent increase in the minimum wage was associated with a decrease in teen employment of 1 to 3 percent.

## Median Price Changes Are a Better Measure of Inflation Than the Consumer Price Index

Although the Consumer Price Index (CPI) is a commonly used indicator of the cost of living, it is not an ideal measure of inflation. For example, when poor weather reduces harvests, the price of food rises, and so does the CPI. In such a case, the increased price of food does not reflect true underlying inflation, since it will not persist after the temporary blip in food prices. Thus, in the event of temporary price disturbances, the CPI misstates "core inflation."

Because food and energy prices are particularly volatile, some economists measure inflation by removing them from the CPI. But a recent NBER study introduces an even better measure of core inflation: the median CPI.

In **Measuring Core Inflation** (*NBER Working Paper No. 4303*), **Michael Bryan** and **Stephen Cecchetti** note that because of the pervasiveness of temporary price disturbances, a simple weighted average of price changes—such as the CPI—is not likely to be a good month-to-month measure of core inflation, and so it will be a poor guide for policymakers' decisions. The authors prefer the median, or midpoint, of the distribution of price increases: half of all goods have price increases above, and half below, the median.

Thus, the median CPI minimizes the influence of temporary price changes, whether small or large, without needing to identify them specifically. In fact, simply trimming the extreme 15 percent of prices that rose the most and the least in each month to construct the trimmed mean improved the usefulness of the CPI as a measure of core inflation substantially, they find.

Bryan and Cecchetti test the CPI, the CPI excluding food and energy prices, the median CPI, and the trimmed mean to determine how highly correlated each measure is with the previous year's growth in the money supply. (The higher the correlation, the better the measure.) They find that the measure most correlated with money is the median CPI, with the trimmed mean coming in a close second. Thus, they conclude that the median CPI is better at measuring money-induced inflation than the other alternatives are.

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Bryan and Cecchetti also show that the median CPI is a better predictor of future inflation than the CPI or traditional measures of core inflation. They go on to present inflation forecasts based on the median CPI and changes in the supply of M2, their preferred measure of the money supply. M2 is the sum of M1 and overnight repurchase agreements and Eurodollar deposits, money market mutual fund balances, money market deposit accounts, savings, and small time deposits. (M1 is the sum of currency, demand deposits, travelers' checks, and other checkable deposits.) Bryan and Cecchetti caution that the margin of error for inflation forecasts in the past has been quite large, and therefore that their inflation forecasts also are likely to have large errors.

Nevertheless, on the basis of past experience, the median CPI and the change in M2 imply that inflation will average slightly over 3 percent for the year ending June 1994, falling to approximately 2 percent for the three years ending June 1996. DRH

## **The Value of Exchange Rate Hedging Depends on Your Horizon**

Exposure to changes in exchange rates represents a major risk for international investors. During the 1980s, it became common practice

for investors to hedge currency risk as fully as possible by methods including the purchase of futures contracts. But for many investors, this simple and seemingly sensible hedging strategy actually may increase exchange rate risk rather than reducing it, according to NBER Research Associate **Kenneth Froot**.

In **Currency Hedging Over Long Horizons** (*NBER Working Paper No. 4355*), Froot examines the variability of returns to British residents on U.S. stock and bond investments during the period between 1802 and 1990. Where short-term investments are concerned, currency hedging greatly affects British investors' returns. Over a one-year period, Froot finds, the earnings from unhedged U.S. stock portfolios, expressed in British pounds of constant value, are 13 percent more variable than the earnings from fully hedged portfolios. Unhedged portfolios of U.S. bonds show 56 percent more variance than hedged portfolios for British investors.

But as the time horizon lengthens, the value of hedging drops sharply. After three years, Froot reports, fully hedged U.S. stock portfolios show *greater* variability than unhedged portfolios when their returns are expressed in real pounds. The same is true for bond portfolios at horizons of about seven years.

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The length of the investor's time horizon is important where exchange rate hedging is concerned, Froot contends, because while short-term currency fluctuations are random, over the longer term, currencies move toward purchasing power parity: the level at which amounts of similar value have similar buying power in each country. That movement creates a “natural” exchange rate hedge for physical assets, such as factories and equipment, and for common stocks. If the value of the currency declines, the local-currency value of such assets will rise over the long term to keep their international value stable.

The value of bonds, however, depends much more heavily on each country's inflation and interest rates, as well as on the real exchange rate. Convergence toward purchasing power parity therefore will have less effect in reducing the variability of foreign bond investors' returns, which is why currency hedging may be more useful.

Multinational corporations' currency hedging strategies, Froot concludes, should be based on the nature of the investment and the duration of the anticipated exposure. If, for example, a company borrows in one currency to build a plant in a country with another currency, then hedging may be unnecessary, as the physical assets will be naturally hedged as exchange rates move to-

ward purchasing power parity. And, he points out, most studies of the benefits of hedging assume that the cost of hedging is nil. "If hedging involves even small transactions costs and counterparty risks, the optimal hedge ratio will decline rapidly toward zero as the investment horizon increases," he concludes. ML



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