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# Market Valuation of Capital Gains and Dividends

Economists have been puzzling for some time now over the question of why most U.S. corporations pay dividends to shareholders when capital gains are taxed much more favorably. In an attempt to answer this question, NBER Research Associates **David F. Bradford,** director of the Bureau's Program in Taxation, and **Roger H. Gordon,** both of Princeton University, set out to measure the relative valuation of dividends and capital gains in the stock market. In *Working Paper No. 409,* **Taxation and the Stock Market Valuation of Capital Gains and Dividends: Theory and Empirical Evidence,** Bradford and Gordon find that dividends and capital gains are generally valued equally, although dividends are valued somewhat higher than capital gains during prosperous periods.

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Using data on monthly rates of price change and dividend yields for all securities traded on the New York Stock Exchange between 1926 and 1978, the authors develop and estimate a model of shareholder preferences for dividends and capital gains. They expect that there will be a range of shareholder preferences between dividends and capital gains and a range of risk inherent in the various stocks. However, an equilibrium in the asset market will generate a single rate of exchange between dividends and anticipated capital gains.

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Bradford and Gordon find that the time pattern of the relative value of capital gains follows economic cycles closely. It is lowest during the depression and through the end of World War II and almost as low during the recession of the early 1970s. The relative value of capital gains to dividends is above 1.0 throughout the boom years of the 1920s and from the 1950s through the mid-1960s. The evidence is consistent with the hypothesis that after a shock in the economy, the value of capital gains tends to return to the point at which dividends and capital gains are equally valued. This result would be implied by the attempts of firms to maximize the price of their shares.

However, Bradford and Gordon reason, tax considerations alone would lead one to expect dividends to be less highly valued than capital gains. "Our empirical findings," they continue, "might be explained either by nontax advantages of dividends to individuals (for example, lower transactions costs or signalling implications), or by a sufficiently high relative weight

placed on the preferences of institutional and corporate shareholders who would prefer dividends."

Although the capital gain regarded by the market as equivalent to a dollar of dividends followed a cyclical path around 1.0 between 1926 and 1978, it varied, even in nondepression years, from 0.70 to 1.37. The authors find this variation difficult to explain based on taxes alone. They therefore expect to do future research on the market value of anticipated capital gains and its relationship to tax rules and corporate real investment.

## Unionism and Worker Tenure

Union workers are more likely to stay on at a firm than nonunion workers, according to NBER Research Associate **Richard B. Freeman.** In *Working Paper No. 400,* **The Effect of Unionism on Worker Attachment to Firms,** Freeman, director of the Bureau's Program in Labor Studies, finds that increased worker tenure does not occur through union induced wage increases or because unionized workers are inherently more stable, but rather through changes in the behavior of workers that are induced by changes in the work setting. A worker's tenure at a firm is significant because it is a key determinant of his wage and fringe benefits, his promotion prospects, and the chance that he will change jobs.

Freeman begins his study with the assumption that unionism can influence the costs and benefits for a worker who stays with a firm in three ways:

1. Unionism can lead to increased wages and rewards, thereby raising the benefits of employees who stay.

2. Unionism creates "voice" mechanisms—grievance and arbitration systems, collective negotiation of contracts, and industrial jurisprudence systems, for example—that make a worker less likely to quit.

3. In union settings with formal grievance systems, discharges (firings) are likely to be expensive; this can also raise tenure.

To measure the impact of these mechanisms, Freeman uses data from three surveys in which individuals were asked about their tenure at jobs, number of quits, and other information on separations. He finds average tenure among those surveyed to be eight years, with 60 percent of the older males surveyed having tenure of ten years or more. When there is a break in worker tenure, it is two to three times more likely to be because a worker has quit than because of a layoff or firing.

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Freeman then tests a number of variables for their effect on worker tenure. He finds that among the group surveyed, older workers and males have longer tenure. He also finds that with wages held constant, unionized workers in a large sample have over one and a half years more tenure than otherwise comparable nonunion workers. Another result of his analysis is that the move from nonunion to union status increases a worker's tenure as much as doubling the worker's wages would.

In attempting to determine *how* unionism affects tenure, Freeman finds that "unionism reduces quits substantially but has essentially no effect or a modest positive effect on other separations." He concludes, therefore, that the impact of unionism on tenure operates through workers' decisions rather than through employers' decisions. Some of the workers' behavioral changes are due to new grievance and arbitration systems and some to inverse seniority layoff rules.

"Overall, by raising the length of attachment between workers and firms, unionism appears to alter the operation of the labor market in an important way that is often neglected in standard studies of union monopoly wage gains. Unions have monopoly wage effects, but they also have more subtle, potentially socially beneficial economic effects that deserve attention," Freeman concludes.

## Modeling International Trade

In today's world where commodities like oil and gold are traded freely and key exchange rates are continually adjusted, it is particularly important to under-

stand the interaction that takes place among nations' economies. To that end, **Hannu Halttunen** and **Dennis Warner** have designed an international model that determines equilibrium trade flows, prices, and exchange rates for twenty-six worldwide regions. In their words, they are "constructing a calculating machine that gives reasonable projections of trade volume and exchange rates, given assumptions on alternative developments in the Organization for Economic Cooperation and Development (OECD) economies, developing countries, and centrally planned economies."

In *Working Paper No. 389,* **A Model of Trade and Exchange Rate Projections,** Halttunen and Warner describe the model and discuss some of the results that it has generated. The model groups commodities into three classes. For each country or region, a path of potential and actual gross domestic product (GDP) is estimated, based on the country's growth in productivity and labor force. GDP projections are then used, with relative price figures, to calculate import and export demands and trade flows. External factors such as foreign aid, labor and interest income from abroad, and private transfers from abroad are balanced to determine the current account of each region. Exchange rates allowed to float are then determined according to current account projections and asset market conditions.

The model can be used to project current account developments in each country under the assumption of a fixed exchange rate. It can also predict the outcome of different exchange rate regimes for countries whose rates are flexible.

Further, the model can project changes in the pattern of international trade based on changes in relative prices or different rates of growth among countries. "These changing patterns of trade will have important consequences for bilateral economic relations and a country's balance of payments position," note the authors.

In the final section of the paper, Halttunen and Warner describe some comparisons they have done on the possible position of a given country first under fixed and then under flexible exchange rate regimes. They find that under fixed rates, Germany, Italy, the United Kingdom, and the United States would accumulate very large net foreign asset holdings, while the less developed countries (LDCs) and the smaller OECD countries would have huge net liabilities. Also, "under a fixed exchange rate regime with high growth, the largest gainers in world market shares are the fastest growing countries," they note, "Japan, OPEC, and ... LDCs."

They then describe what would happen if Germany's rate of growth of output is assumed to be 1.0 percent higher than in the standard example. They find that Germany's current account worsens and its real exchange rate depreciates (by 23.0 percent by 1990). This lowers the price of German exports, giving Germany an additional 1.4 percent of the world's market by 1990 and causing a 0.4 percent increase in domestic inflation.

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In the model, the countries most strongly affected by an assumed change in German growth are France, Italy, and the United Kingdom, since their exchange rates are linked to Germany's current account. In the long run, their currencies appreciate relative to Germany's and their current accounts weaken.

For the smaller European countries, an increased German demand means improved trade and current account balance. Exchange rates appreciate slightly, and inflation declines.

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