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Why Do Japanese Workers Stay in Their Jobs Longer Than U.S. Workers Do?

Since World War II, rates of turnover among Japanese manufacturing workers have been lower than for their counterparts in the United States. Although cultural differences may play a part, they are not the basic explanation, according to NBER Research Associate **Jacob Mincer** and **Yoshio Higuchi**. Japanese turnover is low because workers there receive much more on-the-job training than their counterparts in the United States do. Much of this training is specific to the firm rather than general. That is, it makes the workers more productive at the particular firm where they receive it but does not enhance their productivity as much if they quit and go to another firm. Thus, Japanese workers become "attached" to their firms.

In **Wage Structures and Labor Turnover in the United States and in Japan** (*NBER Working Paper No. 2306*), Mincer and Higuchi use indirect evidence to support their explanation. When workers receive on-the-job training, their wages tend to rise rapidly. Wages of Japanese workers rise more rapidly with tenure at a firm than wages of U.S. workers do. From this fact, Mincer and Higuchi infer that Japanese workers receive more on-the-job training over longer periods of time than do their American counterparts. Thus, the Japanese are more attached to their particular firms.

Mincer and Higuchi study 24 Japanese industries and 17 U.S. industries. They show that if wages of U.S. workers rose as quickly as Japanese workers (which presumably would happen if U.S. workers received as much on-the-job training), 60 percent of

the gap in turnover rates would be eliminated. Thus, they conclude, 60 percent of the difference in turnover rates is caused by differences in on-the-job training.

But why do Japanese firms train their workers over longer periods of time? The main reasons are rapid economic growth and technological change. Since the Korean War, the rate of technological change in Japan has been much higher than in the United States. This advance has required continuous training and retraining of workers. It is no coincidence, according to Mincer and Higuchi, that turnover rates in Japan fell sharply in the 1950s, just as economic growth was accelerating. Before World War II, when Japanese growth was lower, turnover rates were considerably higher than they are today. Mincer and Higuchi note that from 1960 to 1979, productivity of Japanese workers grew four times as fast as that of U.S. workers. This higher growth accounts for 70 to 80 percent of the difference in the growth rate of wages.

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Mincer and Higuchi also find that workers who interrupt their careers for extended periods suffer larger wage declines in Japan than in the United States. The authors infer that the obsolescence of

skills is faster in Japan, where technical growth has also been faster, than in the United States. In addition, Japanese industries with above-average productivity growth have lower-than-average retirement ages. Finally, these industries also have above-average demands for education and training. The authors cite this as evidence that rapid productivity growth is associated with increased worker training, which in turn leads to above-average wage growth and reduced turnover.

If Mincer and Higuchi are correct that lower turnover in Japan is caused by high wage growth, which in turn is caused by more on-the-job training, then the more extensive training given to workers in Japanese plants in the United States (JPUS) should result in higher wage growth and lower turnover for them. Indeed, that is what the authors find. They point out that training and recruitment costs per worker are over \$1000 higher in JPUS than in American-owned plants.

Mincer and Higuchi also find that wages increase more quickly for JPUS workers than for other American workers and that turnover rates are lower. Specifically, wages for JPUS workers increase at 3.3 percent per year, which is closer to the Japanese rate of 4.2 percent than to the U.S. rate of 1.4 percent. Similarly, monthly turnover for JPUS workers is 1.7 percent, closer to the Japanese rate of 0.9 percent than to the American rate of 3.5 percent. DH

Why Have Private Saving Rates in the United States and Canada Diverged?

After moving in tandem for nearly 25 years, private saving rates in the United States and Canada diverged dramatically over the last decade. The private saving rate in the United States fell from 8.7 percent of GNP in 1971-5 to 6.2 percent of GNP in 1981-5, while the private saving rate in Canada rose from 7.8 to 11.9 percent of GNP in those periods. In a new study for NBER, Research Associate **Lawrence Summers** and **Chris Carroll** find that this difference in saving rates is largely the result of different tax structures and of the interaction between taxation and inflation.

In *NBER Working Paper No. 2319*, Carroll and Summers observe that Canadians can contribute up to \$3500 per year, tax free, to Registered Retirement

Savings Plans, which are similar to Individual Retirement Accounts (IRAs) in the United States. In addition, Canadians are not taxed on their first \$1000 of investment income each year. In the United States, limits on IRA contributions and on tax-free investment income have changed several times during the past decade but have been consistently more restrictive than the Canadian provisions, which were liberalized between 1972 and 1976. As a result, these tax incentives have encouraged a higher percentage of Canadian than American taxpayers to save.

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Carroll and Summers also note that U.S. taxpayers have been able to deduct interest payments from their taxable income, while Canadian taxpayers cannot. Interest deductibility is especially valuable when inflation and nominal interest rates are high, since the amount that can be deducted far exceeds the real cost of borrowing. As a result, the aftertax real interest rate faced by many U.S. consumers in the late 1970s and early 1980s was negative, while real interest rates for Canadian borrowers were positive. Thus, interest deductibility combined with inflation provided U.S. consumers with an additional incentive not to save.

Since private saving consists of both personal and corporate saving, Carroll and Summers also ask whether corporate saving and macroeconomic factors contributed to the divergence between Canadian and U.S. private saving rates. They report that corporate saving in both countries has fluctuated considerably from year to year but has shown no long-term increase or decrease since 1954. By contrast, personal saving in Canada rose from an average 3.3 percent of GNP between 1957 and 1971 to 7.6 percent of GNP from 1972 to 1985, while personal saving in the United States has fallen slightly since the mid-1970s. Thus, the increase in Canadian private saving and the decline in U.S. private saving were the result of changes in the practices of individuals, not corporations.

Carroll and Summers also find that unemployment, income growth, and short-term interest rates have had relatively little effect on the difference in saving rates. However, they report that higher government budget deficits in Canada since 1976 may have contributed to the rise in Canadian saving.

New Lessons about Money

Many economists, particularly "monetarists," have advised the Federal Reserve to adopt a rule that calls for a constant rate of growth in the money supply. They contend that by minimizing monetary disturbances, the central bank can also minimize fluctuations in employment, output, and prices. But NBER Research Associate **William Poole** argues that a monetary rule, while useful under normal economic conditions, cannot be used to slow inflation gradually without running the risk of causing a very severe recession.

In **Monetary Policy Lessons of Recent Inflation and Disinflation** (*NBER Working Paper No. 2300*), Poole observes that events since 1981 have falsified the 1970s' view that the velocity of money grows at a steady rate. The evidence suggests that the demand for money is much more sensitive to interest rates than previously thought. As a result, disturbances on the real side of the economy, including oil price shocks and major changes in tax laws, can affect individuals' demand for money directly. Therefore, monetary policy should take these real disturbances into account, rather than following a rule that disregards them.

"Recent experience of inflation and disinflation in the United States suggests that monetary policy should be formulated in such a way as to deal with the possibility of large real disturbances," Poole asserts. "Put another way, there is more to monetary policy than simply avoiding monetary disturbances, as important as that aspect of policy must obviously be."

Poole notes that estimates of the demand for money, which depend upon interest rates, typically use a short-term rate such as the rate on commercial paper. But, he argues, a long-term interest rate, such as the rate on Aaa bonds, is more relevant because individuals respond to the longer-run costs of holding money. These costs are better measured by a long-term interest rate than by a short-term interest rate. Using the long rate and money supply data back to 1915, Poole estimates that the demand for cash balances will fall 0.6 percent for every 1 percent increase in interest rates. By contrast, using the short rate and post-Korean War data, most economists find the response of money demand to interest rates to be near zero.

The increase in interest rates following World War II and a major decline in rates after 1982 thus explain major changes in the velocity of money. By explaining changes in velocity as "trends" occurring over

many years rather than offering economic explanations, Poole says, economists failed to understand the linkage between interest rates and velocity and thus did not anticipate the sharp decline in velocity that began in 1982. Instead, they incorrectly assumed that velocity would continue to grow at a 3 percent annual rate, as it had for over 30 years.

These findings are important in the design of monetary rules. Even if monetary growth is constant, Poole believes, real disturbances have the potential to raise or lower the inflation rate and to affect the level of real economic growth. These disturbances will also affect interest rates and therefore money demand. Under normal conditions, that does not provide evidence in favor of discretionary monetary policy to offset money demand disturbances. A constant money growth rule is still useful. Indeed, the most frequently used guides to the correctness of monetary policy, such as interest rates, are poor indicators, because expectations about future interest rates have a significant effect upon current interest rates.

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At times of high inflation, on the other hand, the substantial sensitivity of money demand and velocity to interest rates may make it impossible to use gradual, predetermined reductions in money growth to reduce inflation without severely depressing the economy. A commitment by the monetary authority to lower inflation implies declining, or even negative, growth in velocity. Under those circumstances, if individuals anticipate lower inflation in the months ahead and adjust their actions accordingly, even a modest decline in money growth might cause a depression.

"The experience of 1980-5 has demonstrated quite decisively that the gradualist prescription is unreliable," Poole observes. "The decline of velocity was far greater than economists had predicted, and it seems very unlikely that the economy could have adjusted satisfactorily if money growth had been reduced by, say, one percentage point per year starting in 1980."

For this reason, Poole concludes, a constant money growth rule will not achieve the desired results during a period of transition from high inflation to low inflation. Although there is still a strong case for a rule once the inflationary period is over, there is no formula to determine when the transition should terminate and the rule should take effect.

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Recent NBER Books

Annual Volume on Macroeconomics Is Available

NBER Macroeconomics Annual, 1987, edited by Stanley Fischer, is now available from The M.I.T. Press. The annual is designed to link theoretical and empirical developments in macroeconomics with specific examples and problems in the real world.

This volume contains six articles that were presented at a conference in Cambridge in March 1987, and the comments and discussion of each. Kevin Murphy and Robert Topel analyze why the unemployment rate has increased since the late 1960s. Julio J. Rotemberg evaluates the microeconomic foundations of Keynesian macroeconomics. Jeffrey A. Frankel and Richard Meese study exchange rate fluctuations. Paul M. Romer examines the recent productivity slowdown in the United States and its relationship to long-term economic growth. Kemal Dervis and Peter Petri analyze the growth of 20 middle-income countries and the particular success of Korea in contrast to Turkey. Finally, B. Douglas Bernheim asks how government budget deficits affect national saving, the interest rate, and the balance of payments.

The cost of the annual is \$25.95 for the hardcover and \$12.95 for the paperback.

Taxes and Capital Formation

Taxes and Capital Formation, edited by Martin Feldstein, is now available from the University of Chicago Press for \$15.00. This volume includes seven short, nontechnical versions of papers prepared for a Bureau project on the effects of taxation on capital accumulation. (The more technical volume was published by the University of Chicago Press earlier this year.) It also includes brief summaries of the other studies that appeared in the technical volume.

Taxes and Capital Formation is written in a style that makes it accessible to a broad audience, includ-

ing individuals in business and government. It also will be interesting and useful to students and professors of economics, public policy, business, and law.

Martin Feldstein is the George F. Baker Professor of Economics at Harvard University and President of the NBER.

Collection by Anna Schwartz Is Published

Money in Historical Perspective, a collection of 16 papers by Anna J. Schwartz with an introduction by Michael D. Bordo and Milton Friedman, is now available from the University of Chicago Press. The price is \$51.00.

These papers span Schwartz's distinguished career and are among her most cited articles on monetary economics. The first group, dating from 1947 to the present, examine money and banking in the United States and United Kingdom from a historical perspective. The second group of papers, written over the past two decades, discuss the importance of stable money. Finally, the volume concludes with four recent articles on international monetary arrangements, including Schwartz's well-known work on the gold standard.

Schwartz has been affiliated with NBER since 1941. She was named a Research Associate Emerita in 1985.

How to Order

Macroeconomics Annual, 1987 can be ordered directly from The M.I.T. Press, 55 Hayward Street, Cambridge, MA 02142. *Taxes and Capital Formation* and *Money in Historical Perspective* may be ordered directly from the University of Chicago Press, Order Department, 11030 South Langley Avenue, Chicago, IL 60628. Academic discounts of 10 percent for individual volumes and 20 percent for standing orders for all NBER books published by the University of Chicago Press are available to university faculty; orders must be sent on university stationery.

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The NBER Digest summarizes selected Working Papers recently produced as part of the Bureau's program of research.

Working Papers are intended to make preliminary research results available to economists in the hope of encouraging discussion and suggestions for revision. The Digest is issued for similar informational purposes and to stimulate discussion of Working Papers before their final publication. Neither the Working Papers nor the Digest has been reviewed by the Board of Directors of the NBER. Preparation of the Digest is under the supervision of Donna Zerwitz. The articles indicated by DH and ML were prepared with the assistance of David Henderson and Marc Levinson, respectively.

Individual copies of the NBER Working Papers summarized here (and others) are available free of charge to Corporate Associates and other supporters of the National Bureau. For all others, there is a charge of \$2.00 per paper requested. Prepayment is required for all orders under \$10.00. For further information, please contact: Working Papers, NBER, 1050 Massachusetts Avenue, Cambridge, MA 02138; (617) 868-3900. Abstracts of all current National Bureau Working Papers appear in the NBER Reporter.