The NBER Digest

NATIONAL BUREAU OF ECONOMIC RESEARCH

February 1995

*IN THIS ISSUE*



# New Products Cause CPI to Overstate Inflation

The Consumer Price Index (CPI), calculated by the Bureau of Labor Statistics (BLS), is an approximation to an ideal cost-of-living index. Specifically, it attempts to measure how much more (or less) income consumers will need this month (or year) to be as well off as they were last month (or year). Naturally, between those time periods, prices may change, the quality of goods may change, and new products are introduced while old ones disappear. Yet, because data have been scarce and the methodology complex, the BLS up until now has not been able to estimate the effect on the CPI of introducing new goods.

In **Valuation of New Goods Under Perfect and Imperfect Competition** (*NBER Working Paper No. 4970*), NBER Research Associate **Jerry Hausman** uses a single product—Apple-Cinnamon Cheerios—to illustrate how this might be done. In so doing, he finds that the rate of increase in the CPI for cereal may be overstated by 20 to 25 percent because it neglects new brands. If such overstatement is widescale in the CPI, then there is cause for concern: in the United States, we tie labor contracts, Social Security benefits, and, most significantly, monetary policy to inflation as measured by the CPI.

Introducing new goods is common business strategy in the United States and Japan. Think of the new models of cars, or types of beer, introduced just in the past few years. Consumers like to try new products; the ready-to-eat cereal industry alone obliged by introducing almost 200 new "brands" between 1980 and 1992. Of course, most of these don't succeed: almost 100 have been discontinued, and only two have a market share (measured in pounds sold) of more than 1 percent. Still, 25 percent of all cereal consumption comes from brands introduced in the last ten years.

General Mills introduced Apple-Cinnamon Cheerios in 1989. Using cash register data—which include prices and quantities from seven metropolitan areas throughout the United States for January 1990 to August 1992, Hausman calculates what he calls the "virtual price" of Apple-Cinnamon Cheerios. The virtual price is the price that causes zero demand and zero market share; it is a pre-introduction price. His estimates vary by city, and range from $6 to $7.50 per pound; his best aggregate estimate is $7.14. This is about twice the actual price of the cereal, Hausman finds; even his lowest estimate of the virtual price is 35 percent higher than the actual average price.

In a way, this is like the consumer getting something for nothing—economists call it "consumers' surplus." Hausman estimates that consumers' surplus is approximately $78 million, or 31 cents per person per year, from the introduction of this new brand. This increase in consumer welfare from the new product is not currently reflected in the CPI.

Even with "imperfect competition"—six firms produced nearly all the ready-to-eat cereals in the United States from 1982–92, and entry into that market is difficult—consumer welfare will increase with a new brand. According to Hausman:

> "When the multi-product firm introduces a new brand, some of the demand it would lose if it attempted to raise the price of its existing brands will now be lost to the new brand. Thus, while multi-brand firms always worry that a new brand will 'cannibalize' the demand for an existing brand, the new brand allows the firm to raise its price on its existing brands."

With broader price increases, of

"[T]he rate of increase in the CPI for cereal may be overstated by 20 to 25 percent because it neglects new brands."

course, consumers will benefit less from the introduction of a new good than they otherwise would, but they still benefit. Thus, Hausman concludes, new brand introduction should be considered favorable, because it significantly increases welfare. These gains in our standard of living are underestimated by the way the government calculates the Consumer Price Index.

## Current Cigarette Taxes Reflect Societal Costs Well

In debates over increasing the tax on cigarettes, antismoking advocates sometimes have claimed that the revenues from current taxes do not cover the costs to society of smoking. However, a recent NBER study by **W. Kip Viscusi** finds that current cigarette taxes more than cover the costs of smoking. The financial savings from premature mortality—in terms of lower nursing home costs (involving Medicare and other government health expenditures) and reduced retirement pension costs (including Social Security)—exceed the higher costs of medical care and life insurance generated by smoking. Even when the costs of environmental tobacco smoke ("secondhand smoke") are taken into account—and they are uncertain, but potentially large—on balance, smokers save society money, Viscusi finds.

A mid-1994 version of the Clinton health reform plan would have raised federal cigarette taxes from the current 24 cents a pack to 99 cents. Former Senate Majority Leader George Mitchell proposed a tax of 69 cents a pack, and a draft bill from the House Education and Labor Committee suggested $2 a pack. But in **Cigarette Taxation and the Social Consequences of Smoking** (*NBER Working Paper No. 4891*), Viscusi notes that such tax hikes, if passed, might not raise the desired revenues. Especially over long periods, as the price of cigarettes rises, purchases decline.

Viscusi also shows that cigarette taxes are extremely regressive. Further, cigarettes already are taxed heavily relative to other products. They are subject to a higher tax rate than alcohol, three times the tax rate of gasoline, and over ten times the tax rate imposed on utilities and automobiles. Cigarette taxes brought in $12 billion in the fiscal year ending June 30, 1993, divided between the federal government and state governments.

To assess whether the costs imposed on society by smokers exceed the cost savings to society, Viscusi undertakes a detailed analysis. For example, he takes into account the dramatic reduction in the tar levels of cigarettes over the past several decades. Earlier studies all have used estimates of health risk based on cigarettes with quite different characteristics than those marketed today. Less tar, Viscusi suggests, could result in fewer lung cancer cases in the next few decades.

"The financial savings from premature mortality . . . exceed the higher costs of medical care and life insurance generated by smoking."

As a rationale for a higher cigarette tax, some have argued that cigarette smoking leads to higher health insurance costs. But Viscusi calculates that the extra medical care costs for smokers amount to 55 cents a pack, versus the 53 cent average total tax per pack now in place. Extra sick leave costs are negligible—under one cent a pack—he calculates. The extra cost for group life insurance is 14 cents a pack, and the tendency of smokers to cause fires adds less than two cents in societal costs per pack.

However, since many smokers die sooner, they spend less time in nursing homes, saving 23 cents a pack. They also collect pensions and Social Security for a shorter period, saving $1.19 a pack. On the other hand, society loses the taxes it could have reaped on their earnings had they lived longer, costing about 40 cents a pack. Summed up, even excluding cigarette taxes, society saves 30 cents per pack, Viscusi estimates.

Viscusi also offers three sets of estimates of the cost of secondhand smoke in terms of more lung cancer and heart disease for nonsmokers. The costs of secondhand smoke are much debated and highly uncertain, but of potentially substantial consequence. According to one of his estimates, smokers save society only 14 cents per pack after making this adjustment. If lower tar cigarettes are considered, allowing smokers to live longer, then secondhand smoke makes smoking a breakeven proposition for society.

DRF

# Job Stability Did Not Change in the 1980s

According to a new NBER study by **Francis Diebold, David Neumark,** and **Daniel Polsky**, job stability in the United States economy actually has increased, not decreased, since the 1970s. In **Job Stability in the United States** (*NBER Working Paper No. 4859*), they find that job stability for most groups of workers has barely changed since 1983. In 1983, workers with zero to three years on a job had a 36 percent chance of working for the same firm in 1987; in 1987, workers with zero to three years on the job had an almost identical probability of working for the same firm in 1991.

The only workers who had a diminished likelihood of staying with the same employer were those with three to six years of job tenure. Some 57 percent of workers in that category in 1983 were with the same employer four years later; only 48 percent of workers in that category in 1987 were employed at the same firm in 1991. Those overall trends are also true for blacks, whites, males, females, college graduates, and less-educated workers, the authors report.

They also find no major changes in job stability when looking at a ten-year, rather than a four-year, period. People employed in 1981 were slightly more likely to have the same employer ten years later than workers sampled in 1973. Younger workers, in particular, seemed to have greater long-term job stability in the 1980s than in the 1970s, while the reverse was true for older workers.

The evidence on older workers in manufacturing, often thought to be among those most seriously harmed by the economic changes of the 1980s, is mixed. The job stability of manufacturing workers in general, and of older manufacturing workers in particular, actually increased from 1983 to 1991, the authors report. Service-sector jobs were much less stable. However, when jobs are classified by occupation rather than sector, blue collar workers saw their job survival prospects diminish much more than white collar and service workers did. "The evidence to date certainly does not point toward a secular decline in job stability," the authors report. "However, there is some evidence of relative declines in job stability for the groups that experienced the sharpest relative wage declines."

Diebold, Neumark, and Polsky use data from the Census Bureau's Current Population Survey to estimate the probability that a worker employed in 1983, 1987, and 1991 would still be with the same employer at various points in the future. Because those years were at different stages of the business cycle, the researchers also test their findings with a correction factor, based on the unemployment rate, to adjust for job terminations caused by general economic conditions. They make that correction separately for each of the demographic groups studied. ML

> "People employed in 1981 were slightly more likely to have the same employer ten years later than workers sampled in 1973."

# Investment Advice at Odds with Economic Theory

Modern finance theory says that the composition of the risky part of investors' portfolios should not vary with their tolerance for risk. For example, if bonds and stocks are the available risky assets, then all investors should hold the same ratio of bonds to stocks, but investors who are more risk averse should hold a higher proportion of their wealth in the form of riskless cash. Popular investment advisors recommend much more complicated strategies, though, and suggest that more risk-averse investors should hold a higher ratio of bonds to stocks.

In **An Asset Allocation Puzzle** (*NBER Working Paper No. 4857*), **Niko Canner, N. Gregory Mankiw,** and **David Weil** find that the advisors' recommendations can be explained by insufficient accounting for inflation. However, the loss from this error is not large, they conclude.

Canner, Mankiw, and Weil examine the portfolio recommendations of a large mutual fund company, a leading stockbroker, a prominent financial advice columnist, and a leading newspaper's personal finance section. Each of the advisors presents a recommended allocation among stocks, bonds, and cash for

three investors with different attitudes toward risk. Their advice contrasts starkly with the predictions of modern finance theory, but is strikingly consistent: for all the advisors, the recommended ratio of bonds to stocks falls as the investor becomes more willing to take on risk.

The authors find that the most likely reason for this discrepancy between theory and practice is that investors suffer from "money illusion"—that is, they care about nominal rather than real (inflation-adjusted) results. Looking at the returns on assets from 1926 to 1992, Canner, Mankiw, and Weil find that optimal low-risk portfolios computed with *real* returns had low holdings of bonds relative to stocks; those computed with *nominal* returns had high holdings of bonds relative to stocks.

"Their advice contrasts starkly with the predictions of modern finance theory, but is strikingly consistent."

Finally, the authors compare the performance of the advisors' recommended portfolios with those that theory suggests are the most efficient. They find that the costs of following the professionals' advice are small. The worst portfolio recommended by the investment advisors produces a return that is only 0.22 percent lower than the return on an optimal portfolio with similar risk. RN

## NBER

*The National Bureau of Economic Research is a private nonprofit research organization founded in 1920 and devoted to objective quantitative analysis of the American economy. Its officers are:*

*Martin Feldstein—President and Chief Executive Officer*
*Geoffrey Carliner—Executive Director*
*Sam Parker—Director of Finance and Administration*

*Paul W. McCracken—Chairman*
*John H. Biggs—Vice Chairman*
*Gerald A. Polansky—Treasurer*

*Contributions to the National Bureau are tax deductible. Inquiries concerning the contributions may be addressed to Martin Feldstein, President, NBER, 1050 Massachusetts Avenue, Cambridge, MA 02138-5398.*

*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, Director of Public Information. The articles indicated by DRF, ML, and RN were prepared with the assistance of David R. Francis. Marc Levinson, and Rob Norton, respectively.*

*A complete list of NBER Working Papers and Reprints can be accessed on the Internet by using our gopher at nber.harvard.edu. Abstracts of all current NBER Working Papers appear in the* **NBER Reporter**. *Individual copies of the NBER Working Papers summarized here (and others) are available free of charge to Corporate Associates.* ***For all others, there is a charge of $5.00 per paper requested. Outside of the United States, add $10.00 per order for postage and handling.) Advance payment is required on all orders. MasterCard and Visa are accepted. Please do not send cash.***

***Subscriptions*** *to the full NBER Working Paper series include all 300 or more papers published each year. Subscriptions are free to Corporate Associates. For others within the United States, the standard rate for a full subscription is $1300; for academic libraries and faculty members, $650. Higher rates apply for foreign orders.*

***Partial Working Paper subscriptions,*** *delineated by program, are also available. For further information or to order, please write: National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138-5398. Or call the Publications Department at (617) 868-3900. Please have the Working Paper Number(s) ready.*

*Requests for* **Digest** *subscriptions, changes of address, and cancellations should be sent to* **Digest,** *NBER, 1050 Massachusetts Avenue, Cambridge, MA 02138-5398. Please include the current mailing label.*