

# The NBER Digest

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## Major Risk Insurance Can Reduce Health Costs

The purpose of insurance is to protect individuals against unexpected expenses. However, insurance coverage alters people's behavior in ways that increase the expected payments for health care. If treatment costs an individual little or nothing in out-of-pocket expenses, then the patient will seek more expensive treatment, and the provider of treatment will choose more expensive measures. An optimal insurance policy thus involves balancing the gains from financial protection against the losses that result from this distortion of behavior toward excessive care.

In the United States, there are also incentives created by the tax law in regard to health care. The law permits employers to deduct their payments for health insurance as a cost of business, while excluding those premiums from the taxable income of employees. This rule substantially lowers the individuals' cost of employer-provided health care through insurance. For an individual with a 30 percent marginal tax rate (the rate paid on the last dollar of income), one dollar in health insurance premiums costs only 70 cents in aftertax income. This makes it personally advantageous to have more complete insurance than otherwise would be chosen.

In **A Major Risk Approach to Health Insurance Reform** (*NBER Working Paper No. 4852*), **Martin Feldstein** and **Jonathan Gruber** analyze the effects of policies that combine high co-payments with income-related limits on out-of-pocket spending. One such major risk policy that

they describe combines a 50 percent coinsurance rate (that is, the patient pays 50 percent of the cost of treatment, the insurer the other 50 percent) with a maximum out-of-pocket limit of 10 percent of the patient's income. Beyond that 10 percent, the insurer would pay everything.

Feldstein and Gruber find that 80 percent of spending on physicians and hospital care is done by 20 percent of families with medical bills over \$5000 in a year. Still, shifting to a major risk policy could reduce aggregate health spending by nearly 20 percent. The reductions would be greatest among higher-income individuals.

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Further, by reducing the excess consumption of health services, the use of major risk insurance would increase the aggregate efficiency of health care. The authors estimate that the plan described here would reduce total health spending by \$60 billion a year. Even after recognizing households' increased financial risks, the plan would raise national health care efficiency by \$34 billion a year.

With a major risk insurance plan, most individuals would be more sensitive than under existing insurance schemes to the costs of health care.

At the same time, they would be protected against the financial hardship that could result from medical expenses becoming a very large share of income.

If the government were to provide such an insurance plan, the bulk of its cost for covering those not currently insured could be made up by changing tax rules to eliminate the advantage of insurance premiums and by the reduced Medicare outlays that would result from individuals taking on more of the financial risk of health care costs, the authors explain. Further, if major risk health insurance was provided without charge to the entire population, then employers would no longer have a reason to provide compensation to employees in the form of health insurance. These premiums could then be converted to wage and salary income, and would be subject to income tax and Social Security payroll tax. Or, the government could encourage individuals to buy major risk insurance on the private market by including the employers' cost of providing insurance in employees' taxable income, or by permitting a tax deduction for out-of-pocket medical expenditures.

Feldstein and Gruber use data from the National Medical Expenditure Survey of 1987. A sample of 6000 insurance units—individuals or families—was asked about their consumption of health care, and insurers were then asked for details on the individual's insurance plan. These data were weighted to obtain national totals and projected forward through 1995. DRF

## People Drink More When the Economy Is Healthy

In a new NBER study, **Economic Conditions and Alcohol Problems** (*NBER Working Paper No. 4914*), **Christopher Ruhm** concludes that alcohol consumption and traffic fatalities increase as the economy improves, and decrease as it worsens. Using data for the 48 contiguous U.S. states between 1975 and 1988, he uncovers no evidence that drinking or risky driving rise during economic downturns. Instead, he finds that both increase during periods of rising employment. Although some people may turn to liquor to deal with the stress associated with deteriorating economic conditions, this reaction is ap-

parently more than offset by lower incomes and (possibly) changes in the relative prices of liquor and other products.

Ruhm estimates that a \$1000 reduction in personal incomes decreases expected liquor consumption by 1.5 percent. Rising employment-to-population ratios, on the other hand, are associated with increased consumption of alcohol and higher vehicle fatality rates. For example, a one point rise in the percentage of the population employed raises predicted liquor consumption by 0.8 percent. A \$1000 increase in incomes also raises expected alcohol consumption by 1.2 percent.

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Two other findings of this study are noteworthy. First, the consumption of distilled spirits is more sensitive to changes in the economy than is the drinking of beer or wine. A one percentage point increase in a state's unemployment rate lowers the predicted consumption of liquor by over 1.1 percent, compared to 0.4 percent for beer or wine. A \$1000 decrease in personal incomes decreases the drinking of distilled liquor by about 2 percent, versus a decline of about 1 percent for beer, and little or no change for wine.

Second, Ruhm notes, “although youths have much higher vehicle death rates than their older counterparts, there is no indication of greater responsiveness to economic conditions.” This may be because of drinking patterns: during downturns, consumers are likely to shift from liquor to wine and beer, and from bars and restaurants to drinking at home. However, this will be less true for youths, since most of their drinking already consists of beer, and is done off-premises.

## Must U.S. Imports Rise Much Faster Than GDP? A New Study Says No

In recent years policymakers have been concerned about American consumers' strong tendency to buy ever-greater shares of imported goods as their incomes rise. It has been sug-

gested that U.S. imports will go up by 2.5 percent for every 1 percent increase in U.S. output (GDP), meaning that the U.S. trade balance will deteriorate whenever the domestic economy grows faster than the economies of its trading partners. Now, in a new NBER study, **Robert Feenstra** and **Clinton Shiells** find that the earlier estimates of Americans' "propensity to import" are seriously overstated because of difficulties in constructing the U.S. import price index.

**In Bias in U.S. Import Prices and Demand** (*NBER Working Paper No. 4841*), Feenstra and Shiells look closely at the methodology used to produce the import price indexes, which are based on a sample of products from importing firms. They show that the government doesn't take new suppliers and new product varieties into account adequately when compiling the indexes. Since new suppliers are selling at lower prices than older suppliers—the very reason people are buying from them—the share of import expenditure on the products the government does sample in fact is falling over time. The result is an upward bias in the measured index.

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Feenstra and Shiells construct a new price index that takes account of the changing mix of suppliers and products. Using it, they show that some of the fast growth in U.S. imports in fact is caused by the price of imports going down, or at least not rising as fast as previously had been thought. Since the lower prices explain larger imports, less weight need be given to the sensitivity of imports to rising incomes. Feenstra and Shiells estimate that instead of the 2.5 percent increase in imports that was predicted previously for each 1 percent rise in GDP, the true increase is only about 1.7 percent, or halfway to a neutral one-to-one ratio.

This suggests that strong relative growth of GDP in the United States will not necessarily lead to large trade imbalances as previously thought. The new index also suggests that America's terms of trade with other nations have been better than was reported, meaning that govern-

ment statistics have been underestimating the benefits of trade to the U.S. economy. RN

## **Leverage Determines How Firms Respond in Recessions and Recovery**

The worldwide slow recovery from the recent recession has been attributed widely, at least in part, to the effect of “debt overhang.” In particular, recent studies of the United States, the United Kingdom, Japan, and Sweden have argued that recovery was hampered by the weak balance sheets and high leverage (that is, ratios of debts to assets) of both firms and consumers. Now a recent NBER study by **Charles Calomiris**, **Athanasios Orphanides**, and **Steven Sharpe** confirms that “debt overhang” has important effects on cyclically sensitive U.S. durables manufacturers. They argue that leverage acts as an important “state variable,” conditioning the response of employment, inventory investment, and fixed capital investment to changes in demand.

In **Leverage as a State Variable for Employment, Inventory Accumulation, and Fixed Investment** (*NBER Working Paper No. 4800*), Calomiris, Orphanides, and Sharpe study a panel of manufacturing firms over 1959–85. They allow the standard “accelerator effect” of sales demand on inventories, employment, and fixed capital to depend on a firm's leverage ratio. In addition, the conditioning effect of leverage can differ during recession and nonrecession phases of the business cycle. They find that leverage has an important conditioning effect on the impact of shocks to sales demand on inventories, employment, and fixed capital. Further, leverage plays a much more important role during recession phases of the business cycle than during expansions.

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During recessions, higher leverage magnifies



the effect of a decline in sales. For a firm with a leverage ratio of 0.3 (one standard deviation above average), a decline of 1 percent in sales during a recession is associated with an extra 0.3 percent decline in *inventories* when compared to the decline observed for a firm with an average leverage ratio of 0.1.

The conditioning effects of leverage on *employment* are somewhat smaller. For a firm with a leverage ratio of 0.3, a 1 percent fall in sales during a recession reduces employment by roughly 0.1 percent more than for the average-leverage firm. Leverage effects for *fixed capital* during recessions are smaller still, which reflects the fact that fixed capital investment is generally less sensitive to shocks than either inventories or employment.

During nonrecession phases of the cycle, leverage has little effect, but does tend to dampen the impact of growing sales demand on firm expansion. Overall, the authors find that firms that use debt to finance aggressive expansion during good times will find themselves less able to maintain operations if bad times follow, and (possibly)

less able to continue to expand as quickly in response to continuing high growth.

These findings based on microeconomic data lend credence to the role of financial variables as propagators of other disturbances over the business cycle—a point of view that has been emphasized by economic historians of the Great Depression, but that has proved hard to isolate in aggregate studies based on time-series data.

These results also have implications for the impact of corporate tax laws that lead firms to favor debt finance. The findings imply that tax favoritism toward debt may promote unnecessary vulnerability of corporate investment and employment to macroeconomic shocks.

The importance of financial variables for conditioning firms' responses to shocks also suggests a direction for improving models that forecast the business cycle. Those models (including standard indexes of leading indicators) typically concentrate on economic flows rather than financial variables, and do not allow the predicted effects of disturbances to vary depending on the financial condition of firms and consumers.



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