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## Shares of Debt-Ridden Takeover Targets Perform Well

When a corporate takeover bid fails, Wall Street is usually disappointed. The target company's stock price drops; if the company has gone to great lengths to fight off the takeover, there are also grumblings that shareholders' interests are being ignored.

In **Debt and Corporate Performance: Evidence From Unsuccessful Corporate Takeovers** (NBER Working Paper No. 6068), **Assem Safieddine** and NBER Research Associate **Sheridan Titman** examine whether this reaction is justified. They find that, at least in the case of companies that run up a lot of debt in the course of fighting off a takeover, it is not.

Safieddine and Titman examined the targets of 573 unsuccessful takeover bids between 1982 and 1991. The share prices of target companies in the sample that took on above-average debt loads to fight off a takeover

significantly outperformed both less-leveraged target companies and the stock market as a whole in the five years after the takeover bid. In searching for an explanation for this outperformance, Safieddine and Titman found that companies with the

improvements that would have been made by a potential raider."

Investors aren't entirely blind to this: They reacted less negatively to failed takeovers when the target company took on lots of debt than when it didn't. But they still reacted negatively, while

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"Companies in the sample that took on above-average debt loads to fight off a takeover significantly outperformed both less-leveraged target companies and the stock market as a whole in the five years after the takeover bid."

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largest debt increases after a failed takeover reduced capital expenditures, sold off assets, reduced employment, and increased cash flows. Target companies that didn't increase their debt loads were much less likely to take such actions, and their subsequent stock performance was simply average. Taking on debt, the authors conclude, "commits the target's manager to make the

the highly-leveraged failed-takeover targets went on to outperform the market over the following five years. This outperformance was not offset by higher volatility, which indicates that investors underestimated how much a target company's value would be improved even if the takeover didn't go through.

—Justin Fox

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## Higher Tax on Beer Can Reduce Physical Child Abuse

**P**olice, social workers, and academics often say that violence in families is associated with the consumption of alcohol. Now in an NBER Working Paper, **Sara Markowitz** and **Michael Grossman** have put some numbers on that anecdotal knowledge in terms of beer drinking and child abuse.

Although actual beer consumption is not measurable, Markowitz and Grossman use data on state beer taxes, which by raising

(NBER Working Paper No. 6359), the authors conclude that “overall violence” toward children would be trimmed by 1.2 percent with the 10 percent excise tax increase on beer. Overall violence includes severe violence, plus milder actions, such as throwing something at the child, or pushing, grabbing, or shoving the child. It does not include slapping or spanking, which is usually considered a way of punishing a child rather than an abusive or violent act. When asked, 36 percent of those surveyed admitted

subject to severe violence, a 10 percent increase in the beer tax would trim the number of abused children by about 152,000 they calculate.

Their study also provides some evidence that laws designed to make obtaining beer more difficult may be effective in reducing violence toward children. In this regard, the authors take account of whether or not grocery stores can sell beer, the percentage of each state’s population living in counties where the sale of beer is prohibited, and the number of retail outlets per 1,000 in population that are licensed to sell alcoholic beverages for on-premise or off-premise consumption. Markowitz and Grossman find that for every one fewer outlet per 1,000 people, the probability of severe violence will be reduced by 4 percentage points. The other factors are not significant.

Finally, laws restricting advertising of beer in general are not found to be effective in reducing violence toward children. The authors looked at whether a state prohibits: price advertising of beer in newspapers and magazines; billboards advertising beer; window displays of signs, packages, and products in liquor stores; and consumer novelty giveaways. Only prohibiting displays in liquor store windows has any effect, but this effect only holds for the broader definition of violence.

—David R. Francis

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“...a 10 percent increase in the beer tax would trim the number of abused children by about 152,000.”

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the price of beer discourage beer consumption, to study how local differences in the consumption of beer affect child abuse. Using a 1976 survey of physical violence based on a nationally representative sample of 1,147 married or cohabiting individuals, the authors find that a 10 percent increase in the excise tax on beer will reduce the probability of severe violence aimed at children by 2.3 percent. Severe violence is defined as a parent or other caretaker of a child kicking, biting, or hitting with the fist; hitting or trying to hit with something; beating up; and threatening to, or using, a knife or gun.

**In Alcohol Regulation and Violence Toward Children**

to at least one act of child violence defined this way in the past year.

Markowitz and Grossman chose beer taxes for their study because it is the most commonly consumed alcoholic beverage and because taxes are easily regulated by policymakers. The difference in excise taxes across states enables the authors to relate variations in beer taxes, and thus to beer consumption, to variances in child abuse across states.

The authors project their findings to the total population of children: 46 million between the ages of 3 and 17 living with both parents in 1975. Since the 1976 survey indicated that 14.4 percent of children (6.6 million) were

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## Has U.S. Investment Abroad Become More Sensitive to Tax Rates?

**I**n **Has U.S. Investment Abroad Become More Sensitive to Tax Rates?** (NBER Working Paper No. 6383), co-authors **Rosanne Altshuler, Harry Grubert, and T. Scott Newlon** address two critical questions concerning the investment decisions of U.S. multinational corporations. First, how sensitive are investment location decisions to differences in tax rates across countries? And second, have investment location decisions become more sensitive to tax rates abroad?

The authors find large effects of taxes on the location of investment abroad. Their estimates suggest that a 1 percent increase in aftertax returns led to an almost 3 percent increase in the real capital stock of overseas manufacturing affiliates in 1992 and a 1.5 percent increase in 1984. This indicates that the allocation of

real capital abroad may have become more sensitive to differences in host country taxes in recent years. These results are consistent with increasing international mobility of capital and globalization of production.

This study uses data for 1984 and 1992 from U.S. Treasury corporate tax return files for U.S. manufacturing affiliates. To estimate the sensitivity of location

studies of the effect of host country tax rates on U.S. direct investment abroad. First, with two years of data, the authors can control for any differences in nontax features of countries that may be correlated with tax rates. Second, the authors can examine whether investment choices abroad have become more sensitive to tax rates over their sample period. This period is particularly

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“A 1 percent increase in aftertax returns led to an almost 3 percent increase in the real capital stock of overseas manufacturing affiliates in 1992.”

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decisions to host country tax rates, the authors use a measure of real capital held in each of the 58 countries in their sample and consider its relationship to tax and nontax characteristics of countries.

The availability of two years of tax return data gives this study two advantages over other recent

interesting, since it was a time of intense tax reform activity in many countries around the world. Although changes in effective tax rates have differed widely across countries in their sample, the authors find an average effective tax rate decrease of 10 percentage points from 1984 to 1992.

—Les Picker

## Price Indexes for the Treatment of Depression

**R**ecent upticks in the Bureau of Labor Statistics (BLS) health care price indexes have rekindled worries about rising health care costs. In **Price Indexes for the Treatment of Depression** (NBER Working Paper No. 6417), **Richard Frank, Ernst Berndt, and Susan Busch** compare major BLS health care price indexes with newly cal-

culated indexes for the cost of outpatient treatment of an episode of major depression. In the first of a series of analyses, they employ a definition of depression that corresponds to treatment in clinical research. They show that from 1991–5, when broad BLS indexes indicated a 15–25 percent price increase in overall health care costs, their indexes suggest a 20–30 percent price *decrease* in the cost

of treating major depression.

Current health care policy seeks to control aggregate spending. But if treatment costs have declined, increases in spending result from increases in the quantity of care, and controlling overall spending would reduce the volume of care delivered. The authors conclude that if further work supports their conclusions and shows that the cost of treat-

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ing episodes of disease has indeed fallen, relying on the broad BLS indexes to formulate health care policy could mislead policy decisions.

For practical reasons, the BLS medical care price indexes collect data on the prices of health care inputs, such as the average cost of a single hospital visit, office visit, or drug. In contrast, Frank and his coauthors calculate price indexes for an episode of treatment of a particular illness. By focusing on the cost of treating a par-

ticular condition, the authors can construct price indexes that reflect price changes brought about by changes in organizational form, technique, and technology.

methods that had been tested in clinical trials and that conformed to the American Psychiatric Association and the Agency for Health Care Policy and Research treatment guidelines for major depression. All treatments conforming to the guidelines were assumed to produce results of equal quality. Five years of data on each of the five types of treatments were used to construct the indexes. The authors produced 7 different types of price index for both the total payments made to

these data indicated price declines of roughly 30 percent for payments to providers and 22 to 30 percent for consumer out-of-pocket costs. Similar results were obtained when the definition of an episode of treatment was relaxed to include claims that were merely close to the guideline criteria.

The authors caution that several important issues need to be addressed before such indexes can be implemented by public statistical agencies. In addition to the problem of accounting for quality differences across different treatments with similar effectiveness in clinical trials, retrospective insurance claim data are typically available only with a nine month to two year time lag. Finally, most insured consumers of health care prepay the non-deductible and non-copayment components of their health care costs by buying insurance. How to incorporate that into a "readily interpretable" medical consumer price index remains a problem with, as yet, no practical solution.

—Linda Gorman

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"From 1991–5, when broad BLS indexes indicated a 15–25 percent price increase in overall health care costs, their indexes suggest a 20–30 percent price *decrease* in the cost of treating major depression."

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providers and for consumers' out-of-pocket costs.

Depending on the treatment used, average 1991 total payments to providers varied from \$254 to \$924. Out-of-pocket patient costs varied from \$11 to \$151. By 1995, provider costs ranged from \$117 to \$646 and average out-of-pocket consumer costs varied from \$21 to \$95. All of the indexes constructed from

particular condition, the authors can construct price indexes that reflect price changes brought about by changes in organizational form, technique, and technology.

The data used to construct the indexes come from medical claims filed by 428,168 people covered by four large self-insured employers from 1991 through 1995. Treatments were defined as episodes of outpatient care using

providers and for consumers' out-of-pocket costs.

## Changing Market Explains Higher College Costs

**M**any American parents are deeply worried about the soaring cost of college tuition. With good reason, since the price of a sheepskin has risen considerably faster than inflation in the post-World War II period. What accounts for the price spiral? NBER

Faculty Research Fellow **Caroline Hoxby** says that both the price and quality of a college education have been strongly influenced by momentous changes in the market structure of college education from 1940 to the present. "Over this period, the market for baccalaureate education became significantly more com-

petitive, as it was transformed from a collection of local autarkies to a nationally integrated market," she writes.

Hoxby argues that the scale of structural change among colleges was equal to or greater than that of other businesses. In **How The Changing Market Structure of U.S. Higher Education Explains**

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**College Tuition** (NBER Working Paper No. 6323), she “advances a theory of industrial organization of college education. Her research suggests that changes in market structure can explain tuition increases of 50 percent or more in real terms since 1950 for selective private colleges, and tuition increases of about 15 percent in real terms for public colleges and less selective private colleges.

Hoxby finds that an increasingly competitive market drove colleges to raise their quality, their tuition, and their expenses. Heightened competition was also a force for colleges to develop different styles and specialties, as colleges felt impelled to create a more differentiated or “niche” product. At the same time, the distribution of student ability within any college narrowed as classes became more homogenous.

In an especially intriguing twist, Hoxby notes that students have a

complicated relationship to the college market. Students are both consumers of college services and inputs into the production of education; they must consume at the same college where they are inputs; and students who want to consume a high quality education are typically high quality inputs

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“An increasingly competitive market drove colleges to raise their quality, their tuition, and their expenses.”

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themselves. These three related facts amplify the traditional predictions of industrial organization theory. High demand students are the same people whose “wages” (the entire subsidy to attend college) benefit the most from the loss of monopoly and monopsony power. Moreover, a multiplier effect is at work: high quality colleges attract high demand students, and highly desirable students further enhance college reputations. “Theory predicts that

opening trade raises average quality; the multiplier magnifies this increase in quality,” says Hoxby.

Of course, economists, legislators, and popular commentators have all put forward various explanations for steep tuition price hikes. Hoxby notes that her research, based on panel data on

1,121 baccalaureate-granting colleges, does not conflict with economic theories that focus on the changing demand or supply conditions for a college education. However, her theory, based on delving into the impact of heightened competition, does conflict with the popular notion that colleges are in cahoots to raise tuition prices faster than the rate of overall inflation.

—Chris Farrell

## Fewer Young People Will Not Solve Problem of Youth Employment

On the surface it would seem a simple supposition: You’re a country with a large number of young people between the ages of 15 and 24, and also with high youth unemployment rates. Gazing down the demographic road, you notice that declining birth rates eventually will shrink this population group. This should mean that in the future, with relatively fewer youths entering the labor market

and hence tighter labor markets for young workers, youth unemployment rates should drop. Unfortunately, it’s not that simple, and countries currently experiencing a crisis in youth employment—which includes a number of European nations—should not expect demographics to come to the rescue. Although youth unemployment rates are likely to fall as youth population shares decline, the effects of population change are small compared with the longer-term increases in

youth unemployment rates in many of these countries.

In **Cohort Crowding and Youth Labor Markets: A Cross-National Analysis** (NBER Working Paper No. 6031), NBER Research Associates **Sanders Korenman** and **David Neumark** consider “the extent to which youth labor market problems may be ameliorated by demographic change.” They note that between 1970 and 1994, unemployment rates for the 15–24 year-old age group in 11 European countries rose, on

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average, 16 percentage points, from 4.2 percent to 20.6 percent. By comparison, the U.S. rate moved only 1.5 points over the same period, from 11 percent to 12.5 percent.

Declining birth rates in several European countries eventually

graphic developments—in particular, projected declines in the size of (the youth labor pool)—will improve youth labor markets.” For example, the authors observe that “many countries experienced baby busts in the 1960s.” But while this meant fewer and

the expectation of “large declines in youth population shares” — Italy, Ireland, Spain, and Portugal —should see some improvement resulting purely from the demographic shift. But the authors do not see demographics spurring “a return to the lower youth unemployment rates of the 1970s.” Instead, Korenman and Neumark assert that “youth labor markets are much more responsive to general labor market improvements.” Such improvements have “much more influence on the health of youth labor markets than do even large reductions” in the youth population.

—Matthew Davis

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“Between 1970 and 1994, unemployment rates for the 15–24 year-old age group in 11 European countries rose, on average, 16 percentage points, from 4.2 percent to 20.6 percent.”

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should mean that fewer youths will be seeking jobs. But Korenman and Neumark say that will not do much in terms of resolving the crisis. They caution that “the evidence does not provide cause for optimism that demo-

fewer youths competing for jobs, youth labor markets continued to deteriorate.

Korenman and Neumark predict that over the next 10 to 15 years, countries possessing both high youth unemployment and

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## NBER

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