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October 2000

Dramatic Rise in Teenage Smoking

Smoking among youths in the United States rose precipitously starting in 1992 after declining for the previous 15 years. By 1997, the proportion of teenage smokers had risen by one-third from its 1991 trough. This trend is particularly striking in light of the continuing steady decline in smoking by adult Americans. "Today we are in the alarming position of having a youth smoking rate that is roughly 50 percent greater than the smoking rate of adults," note NBER Research Associate **Jonathan Gruber** and **Jonathan Zinman** in **Youth Smoking in the U.S.: Evidence and Implications** (NBER Working Paper No. 7780).

Gruber and Zinman note that, unlike adult smoking, youth smoking is not concentrated among the least disadvantaged; it is even higher among white or suburban youth than among black or urban youth. Indeed, the recent rise in youth smoking has been most striking among the most advantaged youth. At the same time, however, changes in background characteristics can explain only a small share — less than 10 percent — of the recent precipitous rise in youth smoking.

A more prominent explanation for the rise in youth smoking over the

1990s was a sharp decline in cigarette prices in the early 1990s, caused by a price war between the tobacco companies. Gruber and Zinman find that young people are very sensitive to the price of cigarettes in their smoking decisions. The authors estimate that for every 10 percent decline in the price, youth smoking rises by almost 7 percent, a much stronger price sensitivity than is typically found for adult smokers. As a result, the price decline of the early 1990s can explain about a quarter of the smok-

mental smokers. Gruber and Zinman do find some evidence that restrictions on access to cigarette purchases can lower the quantity that younger teens smoke. But there is no consistent evidence that restrictions on smoking in public places lower the incidence of youth smoking. Overall, the most influential tool that policymakers have to reduce youth smoking is clearly excise taxes that raise the price of cigarettes.

The two authors also express concern that youth smoking will lead to adult smoking, and that the young

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ing rise from 1992 through 1997. Similarly, the significant decline in youth smoking observed in 1998 is at least partially explainable by the first steep rise in cigarette prices since the early 1990s. The authors also find that black youths and those with less educated parents are much more responsive to changes in cigarette prices than are white teens and those with more educated parents.

However, price does not appear to be an important determinant of smoking by younger teens. This may be because they are more experi-

smokers underestimate this connection. For example, among high school seniors who smoke, 56 percent say they won't be smoking in five years. But only 31 percent of them in fact have quit five years hence. Among those who smoke more than one pack per day, the smoking rate five years later for those who stated that they would not be smoking (74 percent) is actually *higher* than the smoking rate for those who stated that they would be smoking (72 percent).

Gruber and Zinman therefore

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explore the extent to which higher youth smoking translates into higher smoking among adults. They first examine historical data on how the smoking rates among youths in the past are associated with the smoking rates of those same youths as they age. They then examine how the smoking rates of adults are affected by the tax rates that they faced as youths. That is, if there are two adults who face the same tax regime today, but who faced different tax regimes as teens, how much does their smoking differ? The authors find that there is a significant reduction in smoking as an adult associated with facing a higher tax rate as

a youth, confirming the important role of youth smoking in driving adult smoking decisions.

Overall, Gruber and Zinman estimate that between 25 and 50 percent of the rise in youth smoking in the 1990s will persist into adulthood for this group. This "can have drastic implications for the health of the U.S. population," the authors add. Smoking-related illness is the leading preventable cause of death in the United States. Male smokers on average live 6.5 fewer years than those who have never smoked; female smokers live 5.7 years less. Even if the 1990s rise in youth smoking is transitory, the adult smoking rate for

the 1990s cohort will rise by 8 to 16 percent, or 477,000 to 950,000 extra adult smokers.

Some 25 percent of adults now smoke, despite the smoking bans and other hassles they now face in the workplace. Of these still smoking at age 35, about 45 percent will quit by age 60 when they face the greatest health risk from smoking. So some 263,000 to 525,000 smokers face a loss of 1.6 million to 3.2 million life years. This translates into a cost for them and the nation of \$36 billion to \$73 billion in today's dollars, Gruber and Zinman estimate.

—David R. Francis

Recent CPI Revisions

In 1996 the Boskin Commission released a report analyzing the performance of the Consumer Price Index (CPI) and making recommendations to remove various biases that had crept into the index over the years. Among the most important observations of the Boskin Commission was that the CPI overstated inflation by 1.1 percent per year in 1995-6.

The media devoted an enormous amount of attention to the Commission's findings, since the CPI is a

Working Paper No. 7759), NBER Research Associate **Robert Gordon** reviews the comments and criticisms of the Boskin report, provides responses to the more important criticisms, and offers his own observations on the current status of the CPI and of price measurement research. He confines his analysis entirely to the technical issues involved.

Primarily because of the reforms instituted since the Boskin report, the current upward bias of the CPI is in the range of 0.65 percent, down from the 1.1 percent that the report

than those available at traditional retail outlets. Gordon estimates that the shift in market share toward superstores alone, not reflected in BLS price-gathering practices, adds 0.1 percent of upward bias to the CPI. To date, the BLS has not addressed this bias.

However, the BLS has implemented revised procedures to eliminate or moderate upward bias attributable to substitution bias, quality change, and new product introductions. These include new indexes for television sets and personal computers as well as an improved methodology for measuring medical care prices.

Gordon also points out that much of the initial criticism of the Boskin Commission report was over the political ramifications of its recommendations, namely those that would affect tax and Social Security benefit indexation, rather than any technical flaws in its work. He further points out that a fortunate side-effect of the report is the rapid pace of change at the BLS and the new attention to research issues raised by measurement bias.

—Lester A. Picker

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bedrock economic indicator. Biases in the CPI contaminate estimates of productivity growth, median income, and wages, and alter growth rates of government spending programs that are indexed to inflation. Biases also give misleading information to monetary policymakers and make comparative economic performance between nations more difficult to assess.

In **The Boskin Commission Report and Its Aftermath** (NBER

estimated existed for the 1995-6 period. Gordon discusses several biases inherent in the CPI calculation and the Bureau of Labor Statistics' (BLS) efforts to eliminate them: Among them is outlet substitution bias, which refers to the BLS's practice of ignoring differences in prices for identical items across sales outlets. Superstores and discount chains are increasingly capturing market share, with prices markedly lower

Federal Spending Brings No Extra Care

Public and private hospitals react differently to changes in financial incentives because local governments tend to reduce subsidies to public hospitals when their revenues increase. Government programs to increase medical care for the poor thus may fail to improve health outcomes because of this “soft budget constraint.”

In **Hospital Ownership and Public Medical Spending**, (NBER Working Paper No. 7789), **Mark Duggan** shows that the distinction between private and public hospitals is much greater than the difference between private for-profit and private not-for-profit providers. For all practical purposes, both types of private hospitals react in the same way to changes in their financial incentives and to plausibly exogenous increases in their revenues.

Duggan’s study exploits a 1990 change to California’s Medicaid program that was intended to significantly increase hospitals’ financial incentives to treat the poor by transferring vast sums of money to those hospitals that provide a disproportionate amount of care to the indigent. He shows that private not-for-profit hospitals are just as responsive to the changes created by the Disproportionate Share Program

(DSH) as are private for-profit facilities. Both types of private hospitals are significantly more responsive than public hospitals to the improved financial incentives. The private for-profit and private not-for-profit hospitals attract the most profitable indigent patients (those with Medicaid coverage) from public hospitals while continuing to avoid the unprofitable ones (the uninsured).

Duggan uses hospital financial data to explore the reasons for this difference. He finds that local gov-

Thus, Duggan finds, of the several billion dollars paid out to California’s general acute care hospitals by the federal government during the first five years of the DSH program, which was intended to increase care for the poor, virtually none of the funds lead to increases in medical care inputs. He then examines whether the reallocation of Medicaid patients that results from the DSH financial incentives improve health care outcomes for the poor. His findings reveal that zip codes in which a

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ernments reduce their subsidies to public hospitals by \$1 for every \$1 in DSH funds received, so that these hospitals are left without benefit. This soft budget constraint demonstrates why public hospitals are relatively insensitive to the policy-induced change in financial incentives. Both types of private hospitals use the increased revenues that they receive from this program to increase their holdings of financial assets rather than to improve medical care quality for the poor. This latter finding suggests that not-for-profit hospitals are no more altruistic than their for-profit counterparts.

substantial share of Medicaid patients are reallocated from public to private hospitals have no greater improvements in health outcomes, as measured by changes in zip code-level infant mortality rates.

Duggan concludes that programs to provide improved medical care for the poor must be much more carefully designed if they are to benefit the disadvantaged. If California’s experience is representative of the United States as a whole, then the benefits of the \$18 billion spent annually in the United States through the DSH program have been much smaller than the costs.

—Andrew Balls

Open Equity Markets Raise Growth

The world’s emerging markets — countries aggressively seeking a firmer foothold in today’s global economy — frequently get three words of advice about how to accelerate economic growth: reform, reform, reform. Policymakers are told that establishing a framework for long-term economic health requires changes that, among other things, reduce government spend-

ing, lower trade barriers, and make financial markets more attractive to foreign investment. But given that any reform-related gains likely will involve at least some reform-induced pain, what sort of assurances can be offered to these transitioning economies that, despite the political obstacles, a payback is in the offing?

NBER Research Associates **Geert Bekaert**, **Campbell Harvey**, and co-author **Christian Lundblad** argue that, at least when it comes to

financial liberalization, there is strong evidence that reforms lead to tangible rewards. They find that when emerging market countries enact policies to for example, open up equity markets to foreign investors, they experience a one to two percent annual increase in economic growth.

Their study, **Emerging Equity Markets and Economic Development** (NBER Working Paper No. 7763), stops short of

claiming a direct cause and effect relationship between financial liberalization and growth. But what they can say is that if one examines economic growth in emerging markets before and after financial market liberalization, the “results suggest that financial market liberalizations are associated with higher real growth.”

For example, when the authors examine 21 countries that dropped barriers to foreign participation in

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equity markets, “17 exhibit larger average growth rates after the official liberalization dates.” Further, “A reduction in the cost of capital and/or an improvement in growth opportunities are the most obvious channels through which financial liberalization can increase economic growth,” the authors state.

Bekaert, Harvey, and Lundblad are aware that some might challenge their conclusions as failing to consider the fact that, for many emerging market countries, financial reforms are enacted in close prox-

imity to other reforms—such as those that address trade and government spending — all of which have the potential to improve economic performance. Indeed, the authors acknowledge that “the shortcoming of exploring the changes in real economic growth before and after financial liberalization is that the observed change may be related to various economic and political phenomena” that have nothing to do with finan-

cial reforms.

To account for this potential distortion, Bekaert, Harvey, and Lundblad engage in a complex bit of analysis that seeks to isolate the effect of financial liberalization from other reform-related improvements, including reduced government consumption, increased trade, lower inflation, and higher levels of secondary school enrollment. This calculation produces a somewhat lower figure for the impact of financial liberalization on growth, but a tangible gain still emerges.

For example, without considering other factors that might also boost growth, the study found that financial liberalization leads to an increase in average annual per capita GDP growth of “anywhere from 1.5 percent to as large as 2.3 percent.” But what’s “striking,” say the authors, is that even when they factor in a host of other variables that might also boost economic performance, improvements associated with financial liberalization, while they drop to anywhere from .7 to 1.4 percent, remain strong. Interestingly, they find that the liberalization effect on growth is particularly strong for countries with higher levels of secondary school enrollment.

Until there is further study of the issue, Bekaert, Harvey, and Lundblad will only label their results as “intriguing,” not conclusive. For example, they believe more work needs to be done to pinpoint the effect of financial liberalization on capital costs and investment activity. Such an analysis—which they are undertaking in ongoing work — could determine precisely how these reforms fuel broad economic gains.

—Matthew Davis

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