

- Did the 1998 Master Settlement Affect Prenatal Smoking?
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- The Effect of Rising Health Insurance Premiums on Employment



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## BULLETIN ON AGING AND HEALTH

### Did the 1998 Master Settlement Affect Prenatal Smoking?

Prenatal smoking remains a great public health concern. It is the most important modifiable risk factor associated with low birth weight, contributing to one in five low birth weight births, and is estimated to raise the odds of low birth weight by 20 percent to 230 percent, depending on smoking intensity. Each year, more than a half million babies in the U.S. are born to women who smoke during pregnancy.

In November 1998, the major tobacco companies and the attorneys general for forty-six states reached the \$206 Billion Master Settlement Agreement (MSA), ending litigation over smoking-related costs incurred by states. To help finance the settlement, tobacco companies immediately increased cigarette prices by forty-five cents nationwide.

This dramatic price increase was predicted to lead to a particularly large decline in cigarette smoking among pregnant women, since previous research had found that their price sensitivity exceeds that of smokers in general. Thus the MSA was expected to yield significant public health benefits by reducing the incidence of low birth weight births.

In **The Effect of The 1998 Master Settlement Agreement on Prenatal Smoking**, (NBER Working Paper 11176), **Douglas Levy** and **Ellen Meara** estimate the decrease in prenatal smoking resulting from the MSA. In their analysis, the authors use data from the National Vital Statistic System's Natality Detail Files for the 1996-2000 period, which pro-

vides them with a sample of nearly ten million births.

The authors' approach is to contrast the level of prenatal smoking before and after the MSA, allowing for a time trend in smoking behavior. Prior to the MSA, approximately 13 percent of pregnant women smoked and prenatal smoking was declining slowly at a rate of 0.01 percentage points per month. The authors estimate that the MSA resulted in an immediately 0.3 percentage point drop in prenatal smoking — a drop equivalent to that which would normally occur over two and a half years — and that prenatal smoking then continued to fall at the same slow rate as before. Interestingly, the drop in prenatal smoking was twice as large for pregnant teens as for pregnant women as a whole.

The authors also look at the effect of the MSA on the number of cigarettes smoked per day. Prior to the MSA, pregnant smokers consumed 11 cigarettes per day on average. The authors estimate that the MSA resulted in an immediate drop of 0.2 cigarettes per day and that the decline over time in cigarettes smoked per day accelerated after the MSA.

The drop in prenatal smoking estimated in this study is much less than what would have been expected based on the previous literature — in fact, it is less than half as large as the predicted effect based on the smallest estimates from previous studies.

The authors suggest several possible explanations for this difference. First, pregnant women who are still

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smoking in 1998 may be particularly intransigent and less responsive to price than earlier populations. Second, earlier studies may have been biased if changes in state cigarette excise taxes coincided with unobserved changes in other factors that affect prenatal smoking, such as attitudes towards smoking, or if tax changes were enacted along with other tobacco control measures, such as restrictions on smoking in public places. Finally, earlier studies were largely based on small price changes and their results may not be applicable to this case of a very large price increase.

The authors note that one limitation of their study is that no control group was available because the post-MSA price increase was implemented nationwide. However, the time trend in prenatal smoking would have to have turned sharply upwards just as the MSA was enacted in order for the authors' estimates to be as large as those found in the earlier literature, which seems highly unlikely. Further,

the effect of the price increase on prenatal smoking could be even smaller than what the authors estimate if there were other non-price factors changing at the same time, such as negative publicity about smoking.

The authors conclude “the sharp rise in cigarette prices following the MSA had little effect on smoking prevalence and intensity among most pregnant women, but the effect was slightly stronger among pregnant teens.”

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## Can “Active Decisions” Encourage Saving in 401(k) Plans?

More than half of all U.S. workers are covered by a pension plan through their employer, yet approximately one in five eligible workers do not participate in the plan, according to the Employee Benefit Research Institute. Furthermore, even some of those who participate may not be saving adequately for retirement if their contribution rate is too low or their portfolio allocation is too conservative given their needs.

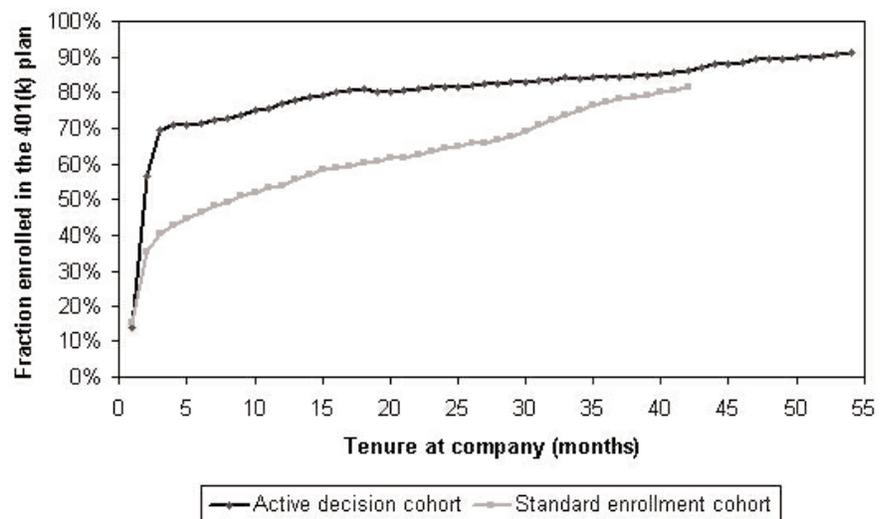
These concerns have led economists and employers to examine mechanisms to increase participation in 401(k) plans. Historically, there have been two enrollment options — standard enrollment, where employees are by default not enrolled and can choose to opt in, and automatic enrollment, where employees are by default enrolled and can choose to opt out. The automatic enrollment mechanism has a default contribution level and portfolio allocation selected by the employer. Previous evidence suggests that defaults tend to be sticky, so that many employees stay with the default option in their plan. Yet workers have very diverse savings needs and levels of risk tolerance, so the default will not be optimal for many workers.

In **Optimal Defaults and Active Decisions**, (NBER Working Paper 11074), authors **James Choi, David Laibson, Brigitte Madrian, and Andrew Metrick** examine a new mechanism for 401(k) enrollment, active decision. In this mechanism, employees are required to make an explicit choice for themselves regarding their plan participation. An active decision mechanism has the advantage that employees are encouraged to avoid procrastinating when it comes to this important decision and are not corralled into a default option that may

not suit their preferences. However, it may also be the case that some employees find this decision difficult and time-consuming to make and would prefer to have it made by a third party with their interests in mind.

In their study, the authors examine

the participation rate of the active decision cohort is 69 percent, versus only 41 percent in the standard enrollment cohort. Over time, the enrollment gap decreases, to seventeen percentage points after two years and five percentage points after three and a



a “natural experiment” that occurred when a large firm switched from an active decision to standard enrollment mechanism unintentionally as part of their transition from a pen-and-paper to a phone-based administrative system. The authors compare the 401(k) participation decisions of about 4,500 new hires that joined the firm during the first seven months of 1997 and 1998, one group under the active decision mechanism and the other group under the standard enrollment mechanism.

Figure 1 plots the fraction of employees who have enrolled in the 401(k) plan by months of tenure at the firm. At the three-month point,

half years, but the difference is always statistically significant.

The authors also examine whether the enrollment mechanism affects the contribution rate, as might be the case if active decision discourages employees from taking time to think carefully about their contribution rate. The authors find that the average contribution rate is lower for plan participants in the active decision cohort than participants in the standard enrollment cohort. However, they conclude that the difference can be explained entirely by the fact that active decision brings employees with weaker savings motives into the plan; the choice of mechanism does not

affect the contribution rate of those who would have enrolled under either regime.

Unfortunately, the authors are not able to study the effect of the enrollment mechanism on asset allocation, as the firm changed the menu of investment fund options at the same time as the enrollment mechanism, but they identify this as an important area for future research.

In the final section of the paper, the authors use a structural model to derive some lessons about the optimal enrollment mechanism. They

find that active decision is more appealing when workers have a strong tendency to procrastinate and more diverse savings preferences.

The authors anticipate that the evidence presented in their analysis may encourage broader adoption of the active decision mechanism. They suggest that active decision may offer a more cost-effective way to boost 401(k) participation than alternatives such as financial education or boosting the employer match rate, though they conclude that “[all of] these tools, when implemented well, can

greatly enhance the retirement income security of a company’s current and future employees.”

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## The Effect of Rising Health Insurance Premiums on Employment

Employer health insurance premiums have risen sharply in recent years — between 2000 and 2005, premiums rose by over fifty percent in real terms, according to the Kaiser Family Foundation.

Economic theory suggests that if workers fully value their health insurance benefits, they will bear the burden of higher premiums in the form of lower wages, with no change in the level of employment or total wage and benefit costs to employers. But if firms are limited in their ability to offset higher benefit costs through lower wages — for example, by minimum wage laws or union contracts — then rising premiums may cause employers to reduce their work force or shift employment to employees who do not receive benefits, such as part-time workers.

Understanding the relationship between health insurance premiums and employment is of growing policy relevance, since many proposals to cover the uninsured rely on “employer mandates” that would require employers to cover workers. Rising premiums provide an opportunity to observe the labor market effects of higher benefit costs.

NBER researchers **Katherine Baicker** and **Amitabh Chandra** explore this issue in **The Labor Market Effects of Rising Health Insurance Premiums** (NBER Working Paper 11160). Studying this question is difficult because most individual-level data sets have no informa-

tion on employer premiums. Previous studies have tried to surmount this problem by using average premiums for the worker’s industry, firm size, and family status. However, a second problem is that there may be unobservable characteristics, such as worker quality, that affect both health benefits and wages. If this is the case and quality is related to the characteristics used to impute premiums, then any estimated relationship between premiums and employment could be biased by the failure to control for worker quality.

The authors suggest a novel approach to overcome this problem — they use state-level per capita medical malpractice payments to predict health insurance premiums. The authors argue that malpractice costs will be reflected in health insurance premiums but are unlikely to be correlated with unobservable worker characteristics such as quality.

Using this approach, the authors find that the cost of increasing premiums is borne primarily by workers with employer-provided health insurance in the form of decreased wages. They also find effects on employment — rising premiums are associated with more unemployment and more part-time work. The authors find that when premiums rise, part-time workers receive higher wages but are less likely to receive benefits, which suggests that employers may be shifting employment to part-time employees with limited benefits in order to avoid premium increases.

These results are consistent with a model where workers do not value health insurance benefits at their full cost or firms are constrained in their ability to lower wages. Yet these findings differ from those in earlier studies, which typically concluded that employer mandates such as mandated maternity benefits are borne fully by workers through lower wages, with no employment effects. The authors suggest that one possible explanation for the difference is that workers may not fully value the recent increases in insurance premiums, since premium increases have typically come with little expansion in the scope of benefits.

The results of this study have important policy implications. They suggest that the cost of employer mandates is likely to be passed on to workers in the form of lower wages. They also suggest that if some groups of workers are exempt from an employer mandate, such as part-time workers or employees in small firms, then employers may increase their reliance on these workers, undermining the goal of the mandate. The authors conclude “more generally, rising health insurance premiums will place an increasing burden on workers and increase the ranks of both the uninsured and the unemployed.”

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## NBER Profile: *Ernst Berndt*

Ernst Berndt is the Director of the Program on Productivity and Technological Change at the NBER; he is also a Research Associate in the NBER's Health Care program. He has been affiliated with the NBER since 1980.

Berndt is the Louis B. Seley Professor of Applied Economics at the Sloan School of Management at the Massachusetts Institute of Technology. He is also Co-Director of the MIT-Harvard Biomedical Enterprise Program, and of the MIT Center for Biomedical Innovation.

Berndt is a Fellow of the Econometric Society. He has served on the editorial boards of numerous journals, including the *Journal of Econometrics*, the *Southern Economic Journal*, and *Economic Inquiry*. He has served as a member of various advisory panels for the National Science Foundation, the National Academy of Sciences, the U.S. Census

Bureau, and recently completed a term as Chair of the Federal Economic Statistics Advisory Committee. He received a Ph.D. in Economics from the University of Wisconsin at Madison and an B.A. in Economics from Valparaiso University in Indiana, as well as an honorary doctorate from Uppsala University in Sweden.

Berndt's research focuses on productivity and health care issues. Some of his recent work has examined the marketing of prescription drugs to consumers, price indexes for medical care goods and services, and the economic burden of depression.

Berndt and his wife, Joan, have recently become grandparents for a third time, with the benefit of all three grandchildren living nearby. They enjoy traveling (particularly to French speaking areas), concerts in Tanglewood, and searching for 18th century French antique furniture.



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