

Economic Impact of Measure 50 on Low-Income Households in Oregon

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October 20, 2007

Prepared for Upstream Public Health.

Funding for this study came from a generous grant from the Northwest Health Foundation.

Executive Summary

Measure 50 proposes to raise Oregon's cigarette excise tax by 84.5 cents per pack (to \$2.025, the same rate applied in Washington) and to raise other state excise taxes on tobacco products from 65 percent to 95 percent of wholesale prices. State tobacco taxes were last raised, by referendum, in 2002, followed by a 2004 reduction in the cigarette tax (the only reduction in any state's tax in many years). Extensive economic research has demonstrated that higher cigarette and other tobacco product excise taxes will lead to significant reductions in tobacco use, as current users quit, potential users are deterred from starting (or, for former users, restarting), and continuing users cut back. Given this research, I estimate that over 22,000 Oregon smokers would quit smoking, while almost 32,000 youth under 18 would be deterred from starting. Over time, these reductions in the number of smokers will prevent over 15,000 premature deaths from smoking. At the same time, the higher cigarette tax would generate over \$129 million in new revenues, with additional revenues resulting from the higher taxes on other tobacco products. Most of the new revenues would be used to fund a program that provides health insurance coverage for children and adults in low-income households. In addition, some of the new revenues would be used to support the state's comprehensive tobacco control program.

One concern with higher tobacco taxes is that these taxes may fall most heavily on low-income persons, given the greater prevalence of tobacco use in less-educated, lower income populations. However, when considering the financial impact of Measure 50 on low-income Oregonians, two factors need to be considered. The first is the fact that tobacco use among low-income persons responds more to increases in price than does tobacco use among higher-income persons, leading to disproportionately large public health and economic benefits among low-income persons. The second is that low-income households benefit disproportionately from the health insurance program funded by the revenues generated from the tax increases.

This report provides conservative estimates of the impact of Measure 50 on low-income Oregonians by estimating the impact of the tax increase on spending on cigarettes among low-income smokers and comparing this to the value of the health insurance benefits provided by the new program funded by the new tax revenues.

Smoking prevalence among low-income Oregonians (those in households with incomes below 200 percent of the federal poverty level) is estimated to be 28.5 percent. The typical low-income smoker is estimated to consume 363 packs per year, for an annual cost of approximately \$1,450. Based on these estimates, there are almost 244,000 low-income smokers in Oregon, spending a total of \$354.4 million on cigarettes per year. The 21 percent price increase resulting from the proposed tax increase would lead 15,400 of these low-income smokers to quit smoking. Total spending on cigarettes by low-income Oregonians who continue to smoke would rise to \$374.9 million, an increase of approximately \$20.5 million.

The Governor's office estimates that 117,000 children in Oregon are uninsured. Of these, 68,000 children are in families with incomes below 200 percent of the federal poverty

level; these children would receive health insurance at no cost under the new program. An additional 33,500 children in families with incomes between 200 and 350 percent of the federal poverty level would be eligible to receive health insurance at reduced rates under the program. Focusing on the population below 200 percent of the federal poverty-level, the Oregon Legislative Fiscal Office estimates that 59,993 of eligible children will eventually be covered by the health insurance provided by the program created by Measure 50. The value of this benefit for each child is \$160 per month, or \$1,290 per year. Given this, the total value of the benefit for the children in low-income families is \$115.2 million per year. In addition, the Oregon Legislative Fiscal Office indicates that \$24.9 million of the new tobacco tax revenues will be allocated to providing health care for an additional 10,000 low-income adults through an expansion of the Oregon Health Plan. This expansion would result in \$43.1 million in new federal matching funds. Thus, the total value of the health insurance benefits provided by Measure 50 to low-income Oregonians is \$183.2 million.

Given these conservative estimates, the net economic benefit of Measure 50 for low-income Oregonians is \$162.7 million – the \$183.2 million in new health insurance benefits less the \$20.5 million in increased spending on cigarettes. This understates the economic benefits of Measure 50 for low-income families since it does not account for the other benefits that come from reduced smoking, including reductions in out-of-pocket spending on health care by low-income smokers who quit smoking and do not take up the new health insurance benefits (including spending to treat diseases caused by smoking as well as spending to treat illnesses caused by exposure to secondhand smoke among their children and other non-smoking family members) and increases in incomes among low-income smokers who quit smoking and, as a result, lose less work time to illnesses caused by smoking.

I. Introduction

Over the past five years, all but a handful of states have increased their cigarette and other tobacco excise taxes – some multiple times – because of the public health and economic benefits that result from these higher taxes. Oregon last increased its cigarette tax, from 68 cents per pack to \$1.28 per pack, by referendum in 2002, but subsequently reduced its tax to \$1.18 per pack in 2004 (the only reduction in any state’s cigarette tax in many years).

Measure 50 proposes to raise the state’s cigarette excise tax by 84.5 cents per pack (to match the \$2.025 rate applied in Washington), and to raise other state excises on tobacco products from 65 percent to 95 percent of wholesale prices. Based on the extensive research on the effects of cigarette taxes and prices on cigarette smoking, I estimate that the cigarette tax increase alone will generate over \$129 million in new revenues, with additional revenues from the higher taxes on other tobacco products. The public health impact of the higher tobacco taxes will be considerable as current tobacco users quit in response to the higher taxes, while future users are deterred from starting. I estimate that over 22,000 adult smokers in Oregon will quit smoking in response to the higher cigarette prices that result, while almost 32,000 Oregonians under 18 will be deterred from initiating regular smoking. Given the significant health consequences of cigarette smoking, these reductions in youth and adult smoking will prevent over 15,000 premature deaths from diseases caused by smoking. In addition, the reductions in smoking will generate significant economic benefits in Oregon, given the reduced health care spending to treat diseases caused by smoking as well as the increased productivity that results from the reduced death and disease caused by smoking.

One concern with higher tobacco taxes, however, is that these taxes fall most heavily on low-income persons, given the greater prevalence of tobacco use among less educated, lower income populations. When considering the potential impact of a tobacco tax increase on low-income persons, however, one needs to consider several factors. While existing tobacco taxes are regressive, increases in these taxes can be progressive given that smoking among low income persons will fall sharply in response to the higher taxes, while smoking among those with higher incomes will fall by less. These reductions in smoking will lead to disproportionately large public health and economic benefits among low-income persons given the relatively large reductions in smoking in this population. Moreover, one needs to consider not just the impact of the higher tax but also the use of the revenues generated from the higher tax. Measure 50 specifies that most of the new revenues generated by the tax will be spent on a program that provides health insurance coverage for children and adults in low-income households. In addition, some of the new revenues will be directed to the state’s comprehensive tobacco control program, leading to further reductions in smoking and its health and economic consequences among low-income persons.

This report provides conservative estimates of the impact of Measure 50 on the low-income population in Oregon. The effects of the proposed cigarette tax increase on smoking among low-income persons Oregonians is estimated and compared to the value of the health insurance benefits funded by the revenues generated from the higher taxes.

Based on conservative assumptions, I estimate that low-income Oregonians will spend an additional \$20.5 million on cigarettes following the tax increase called for in Measure 50, while receiving health insurance benefits valued at \$183.2 million. The net impact is clear – Measure 50 will produce a net economic benefit of at least \$162.7 million for low income Oregonians.

II. Impact of Measure 50 on Smoking and its Consequences in Oregon

The most recently available data indicate that adult smoking prevalence in Oregon is 18.5 percent (Centers for Disease Control and Prevention (CDC), 2007), implying that approximately 526,000 adult Oregonians are smokers. Similarly, CDC (2006) estimates that 232,000 youth in Oregon will become regular smokers as adults. These smokers will consume over 191 million packs of cigarettes in the coming calendar year. Given the current state tax of \$1.18 per pack, the cigarette tax will generate over \$225 million in revenues, while Oregon's smokers will spend over three-quarters of a billion dollars on the cigarettes they consume.

Considerable economic evidence indicates that increases in cigarette taxes result in comparable increases in cigarette prices and that these higher prices lead to significant reductions in youth and adult smoking (US Department of Health and Human Services, 2000; Chaloupka et al., 2000; Chaloupka, in press). Estimates indicate that every ten percent increase in cigarette prices reduces overall cigarette consumption by four percent. At an average cigarette price of \$4.00 per pack in Oregon (Orzechowski and Walker 2007; Federal Trade Commission 2007), the 84.5 cent per pack cigarette tax increase called for in Measure 50 will raise cigarette prices by just over 21 percent, reducing cigarette sales by almost 8.5% to 175 million packs. At the new tax rate, over \$354 million in cigarette tax revenues will be collected, with these revenues rising by almost \$129 million as a result of the Measure 50 tax increase.

The same economic evidence indicates that about half of the impact of cigarette price increases is on the prevalence of smoking, implying that every ten percent increase in cigarette prices will reduce adult smoking prevalence by approximately two percent, as adult smokers quit smoking in response to higher prices. Given these estimates, the 84.5 cent increase in the Oregon cigarette tax would lead over 22,000 adult smokers to quit smoking. In addition, numerous economic studies indicate that youth smoking is significantly more responsive than adult smoking to changes in prices, with estimates suggesting that a ten percent increase in cigarette prices will reduce youth smoking prevalence by 6.5 percent (Chaloupka and Grossman 1996; Chaloupka, in press). Given these estimates and CDC's estimates that 232,000 Oregonian youth will become regular smokers as adults, the 84.5 cent tax increase called for in Measure 50 would prevent nearly 32,000 youth from becoming regular smokers.

Given the enormous health consequences of smoking, these reductions in youth and adult smoking will have a significant public health impact, averting over 15,000 premature deaths that would have otherwise been caused by smoking. In addition to the public health benefits, the higher cigarette tax will significantly reduce the considerable economic

costs of smoking in Oregon. CDC (2006) estimates that Oregonians spent over \$1.1 billion in 2004 on medical care to treat diseases caused by smoking, while losing an additional nearly \$1.1 billion in productivity because of the death and disease caused by smoking.

III. Impact of Measure 50 on Smoking among Low-Income Oregonians

Over time, cigarette smoking and other tobacco use has become increasingly concentrated in less educated, lower income populations. This is true in Oregon as well, where smoking prevalence rates among low-income persons are approximately double those among higher-income persons (CDC 2006). For the purposes of this discussion, “low-income” will refer to families with incomes below 200 percent of the federal poverty line (in 2007 \$20,420 for an individual, and \$41,300 for a family of four). US Census Bureau (2007) estimates indicate that approximately 856,000 Oregonians, approximately 30 percent of the adult population, are low-income based on this definition. Based on an overall smoking prevalence of 18.5 percent among adult Oregonians, and given that smoking prevalence is twice as high among low-income Oregonians than among high income Oregonians and that 30 percent of the adult population is low income, smoking prevalence among low-income Oregonians is estimated to be 28.5 percent. This is consistent with recent data on smoking prevalence by family income level in Oregon (CDC, 2006; Oregon Department of Human Services, 2006). Given this, there are almost 244,000 low-income adult smokers in Oregon, just over 46 percent of all adult smokers.

Given the definition of low-income used in this analysis, survey data suggest that average daily cigarette consumption among lower and higher income smokers is roughly the same among lower and higher-income smokers (USDHHS, 2006). Given the estimated number of adult smokers and total cigarette sales in Oregon, the typical smoker consumes 363 packs of cigarettes per year or almost one pack per day. Given this, low-income smokers in Oregon will consume approximately 88.6 million packs of cigarettes in the current year, paying just over \$350 million for cigarettes. Each low-income smoker spends approximately \$1,450 per year on cigarettes.

Economic theory predicts that lower-income individuals will respond more than higher-income individuals to changes in the prices of the goods and services they consume. Cigarettes are no exception to this, with several empirical studies finding that smoking among lower-income populations is much more responsive to price than smoking among higher-income populations (USDHHS, 2000; Chaloupka, et al. 2000; Chaloupka, in press). Farrelly and his colleagues (2001), for example, estimate that smoking in US households below the median income level is four times more responsive to changes in cigarette prices than is smoking in households with incomes above the median. Similarly, Gruber and his colleagues (2003) estimate that a ten percent price increase reduces smoking by nearly 10 percent for Canadians in the lowest income quartile, while producing smaller reductions in smoking in higher income groups; Townsend and her colleagues (1994) find similar evidence for the U.K. Similarly, estimates from low and middle income countries suggest that cigarette smoking in these countries is two to three times more sensitive to price than is smoking in high income countries (Jha and Chaloupka, 1999).

Given economic theory and the empirical evidence, I conservatively estimate that the price responsiveness of smoking among low-income persons in Oregon is 1.5 times that of the overall population, implying that a ten percent price increase will reduce cigarette consumption among low-income persons by six percent. This implies that the tax increase called for by Measure 50 will reduce cigarette consumption among low-income smokers in Oregon by over 11 million packs (12.7 percent) in the coming calendar year. About half of the reduction in cigarette consumption among low-income Oregonians results from 15,400 low-income smokers quitting. Total spending on cigarettes by low-income smokers will rise from just over \$354.4 million to almost \$374.9 million, an increase of \$20.5 million.

The estimated \$20.5 million increase in spending on cigarettes by low-income smokers is almost certainly an overestimate given the conservative assumptions made in this analysis. The empirical evidence suggests that smoking in low-income populations will likely be more responsive to price than assumed in this analysis – as much as two to three times the overall response. Similarly, the average price used in these analyses almost certainly overstates the prices paid by low-income smokers, given that they are much more likely to consume discount brands that will be less expensive on average (Hyland et al., 2006). Using less conservative assumptions than used above will lead to lower estimates of increased spending on cigarettes following the 84.5 cent per pack increase contained in Measure 50. For example, if one assumes that low-income smokers pay an average of \$3.50 per pack and are twice as responsive to increases in cigarette prices as the overall population, the estimated increase in spending following the tax increase is less than one million dollars. At the other extreme, if one assumes that low-income smokers pay the same prices and are no more responsive to changes in prices, spending on cigarettes among low income smokers would rise by \$38.6 million after the tax increase. The table in the appendix presents estimates based on alternative assumptions about prices and price responsiveness.

In addition, this analysis does not account for the reductions in tobacco use that will almost certainly follow the increased spending on Oregon's comprehensive tobacco prevention and cessation program that would be funded by a portion of the new tax revenues. Growing evidence clearly shows that greater spending on comprehensive tobacco control programs reduces youth and adult smoking (Tauras, et al., 2005; Farrelly et al., 2003). The estimated increases in spending on cigarettes among low-income smokers in Oregon will almost certainly be overestimates given the additional reductions in their smoking in response to the increased program funding.

IV. Value of the Health Insurance Benefit to Low-Income Oregonians

Measure 50 specifies that most of the new revenue generated from the cigarette and other tobacco tax increases will be used to fund a program that makes health insurance benefits available to low-income Oregonians. Recent estimates by the Governor's office indicate that 117,000 children in Oregon are uninsured (Office of the Governor, 2006). This includes approximately 68,000 children in families with incomes below 200 percent of the federal poverty level, who would receive health insurance at no cost under the program.

An additional 33,500 children in families with incomes between 200 and 350 percent of the federal poverty level would be eligible to receive health insurance at reduced rates ranging from 50 to 85 percent subsidies depending on the family's income level.

Focusing on the population below 200 percent of the federal poverty level (the low-income population defined above), the Oregon Legislative Fiscal Office (2007) estimates that 59,993 of the 68,000 eligible children will eventually be covered by health insurance under the program created by Measure 50. The value of this benefit for each child is \$160 per month, or \$1,920 per year (Office of the Governor, 2006). Given this, the total value of the benefit for the children in low-income families will amount to \$115.2 million per year. Following the same approach and accounting for the reduced subsidy as income rises, families with incomes between 200 and 350 percent of the federal poverty level will receive health insurance benefits amounting to \$29.6 million.

In addition, the Oregon Legislative Fiscal Office (2007) indicates that \$24.9 million from the new tobacco tax revenues will be allocated to providing health care for an additional 10,000 low-income Oregon adults through the state's Oregon Health Plan. This expansion would also include \$43.1 million in federal matching funds, for a total benefit to low-income adults of \$68.0 million.

The total value of the health insurance benefits provided by Measure 50 for Oregonians in families under 200 percent of the federal poverty level is \$183.2 million. This understates the economic benefits to these families that would result from the initiative since it does not account for the economic benefits that accrue from the reduced tobacco use caused by the higher cigarette and other tobacco product excise taxes. Out-of-pocket health care spending will be lower among smokers who quit smoking and do not take up the new health insurance benefits (including spending on care to treat illnesses caused by smoking as well as spending on health care to treat illnesses caused by exposure to secondhand smoke among their children and other non-smoking family members). Incomes will be higher among low-income smokers who quit or cut back in response to the tax increase, given that they will lose less work time to illnesses caused by smoking.

V. Conclusions

Measure 50 will raise cigarette and other tobacco product excise taxes in Oregon and use most of the revenues generated from the tax increases to subsidize health care for children and adults in low-income families. Based on conservative assumptions, I estimate that low-income Oregonians will spend an additional \$20.5 million on cigarettes following the tax increase, while receiving health insurance benefits with a value of \$183.2 million, for a net economic benefit of \$162.7 million. This almost certainly understates the economic benefits of Measure 50 to low-income Oregonians given that it does not account for other factors, most notably the increased incomes received by those who quit smoking and the additional reductions in smoking resulting from greater spending on the state's comprehensive tobacco control program.

VI. Literature Cited

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