



# Tax incentives and the demand for private health insurance



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## ABSTRACT

We analyze the effect of an individual insurance mandate (Medicare Levy Surcharge) on the demand for private health insurance (PHI) in Australia. With administrative income tax return data, we show that the mandate has several distinct effects on taxpayers' behavior. First, despite the large tax penalty for not having PHI coverage relative to the cost of the cheapest eligible insurance policy, compliance with mandate is relatively low: the proportion of the population with PHI coverage increases by 6.5 percentage points (15.6%) at the income threshold where the tax penalty starts to apply. This effect is most pronounced for young taxpayers, while the middle aged seem to be least responsive to this specific tax incentive. Second, the discontinuous increase in the average tax rate at the income threshold created by the policy generates a strong incentive for tax avoidance which manifests itself through bunching in the taxable income distribution below the threshold. Finally, after imposing some plausible assumptions, we extrapolate the effect of the policy to other income levels and show that this policy has not had a significant impact on the overall demand for private health insurance in Australia.

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## 1. Introduction

Many countries actively intervene in the market for private health insurance (PHI) using some combination of community ratings, price subsidies and insurance mandates. While the community rating (group insurance) regulation ensures that high risk sub-groups of the population are not priced out of the market, it reduces the value of insurance for low risk individuals, creating a potential for adverse selection. To overcome this problem, mandates and subsidies typically are used to increase participation in the health insurance market. The main challenge for the policy makers is implementing the correct mix of these policies to ensure equitable access to health care while minimizing the inefficiency associated with regulation. This is not an easy task, as evidenced

by the debates surrounding the Affordable Care Act of 2010 in the United States, which envisions introduction of all three policies in 2014 (Gruber, 2011).

Knowing how subsidies and mandates will affect the demand for PHI is essential to implementing the optimal policy mix. Although there exists a large literature on the effects of price subsidies on the demand for health insurance, few studies look at the effect of insurance mandates. This is because mandates seem to be less popular than subsidies among policymakers. Also, in the few national health systems with mandates (e.g. Netherlands, Switzerland) there is no legal opt-out option such as paying a tax penalty which makes those countries unsuitable for studying tax based insurance mandates.

In Australia the market for private health insurance is heavily regulated by the government. As in some other countries (e.g. UK, Ireland, and Spain), Australia has a universal tax financed health care system (Medicare) with the private health sector playing a *duplicate* role. Specifically, all Australians have access to free public hospital treatments automatically, but treatments in private sector settings require out-of-pocket expenses. The private hospital sector is large: e.g. about 2/3 of elective surgeries were performed in the private sector in the period 2006–2011 (Surgery in Australian Hospitals 2010–2011). The advantages to patients of being treated in private hospitals, or as private patients in public hospitals, include the possibility of avoiding long waiting times for elective surgery in the public sector (Johar et al., 2011), the ability to nominate a

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treating doctor, or to have private or better quality accommodations, etc. Although the costs of private treatment can be substantial, they can be greatly reduced by purchasing private health insurance coverage.

Since the introduction of public health insurance in the mid-1980s, the proportion of the Australian population covered by private insurance has been declining steadily, a fact commonly attributed to adverse selection caused by the community rating (Butler, 2002). In an attempt to slow this trend, the Australian government introduced several measures at the end of the 1990s aimed at increasing the take-up of private health insurance. These measures included a 30% price subsidy, a system of premium loadings designed to encourage the take-up of PHI coverage at a younger age (Life Time Health Cover) and a means-tested insurance mandate, known as the Medicare Levy Surcharge (MLS). Under the MLS, which is the focus of this paper, a tax penalty at the rate of 1% of total taxable income is imposed on those with reported incomes above a specified threshold who do not have eligible PHI coverage.

We use the administrative income tax returns data collected by the Australian Taxation Office to study the effect of the MLS on the demand for PHI. The MLS policy creates a discontinuous change in the average tax rate for those at a specified income threshold without PHI coverage. In theory, this should create strong incentives to purchase insurance for all taxpayers above the threshold. Moreover, taxpayers just below the MLS threshold should constitute a suitable control group which could be used to estimate of the treatment effect of the policy. However, this strategy is not appropriate if reported taxable income can be manipulated (McCrary, 2008). Because reported taxable income responds to changes in marginal tax rates (Saez, 2010; Chapman and Leigh, 2006), the MLS might produce a similar response: facing a significant change in the average tax rate, taxpayers with incomes just above the threshold and a low willingness to pay for health insurance might choose to manipulate their taxable incomes to avoid paying the tax. We empirically verify this intuition and document bunching in the taxable income distribution just below the MLS threshold. This implies that estimation of the MLS effect on PHI coverage relying on a simple comparison of the insurance rates just below and just above the income threshold will be misleading.

We develop a novel approach to estimating the effect of the mandate in the presence of tax avoidance using the observation that income shifting is limited to a certain interval around the MLS threshold. First, we estimate the boundaries of the bunching interval in the income tax returns data using similar methods to those recently applied in the income taxation literature (Chetty et al., 2011). Second, we obtain the policy effect at the MLS threshold by estimating the relationship between income and the PHI coverage rate *outside* of the bunching interval; we then can predict the values of the counterfactual probability of PHI coverage *within* the bunching interval that would obtain if income shifting were not possible. To implement this empirical strategy we use taxable income and PHI coverage data for single individuals in the fiscal year 2007–2008. After implementing various robustness checks, we find that the MLS has increased private health insurance coverage at the threshold by 6.5 percentage points (15.6%). Given that the tax penalty at the threshold in 2006–2007 was approximately equal to the price of the cheapest MLS eligible insurance policy, this effect is relatively small. It suggests that even if the value of PHI for the marginal individual was close to zero, many taxpayers either made dominated choices or faced large transaction costs of obtaining PHI coverage. Our estimates of the treatment effect for different age groups suggest that older households are the least responsive to the monetary incentives created by the MLS; the majority of tax income from the surcharge comes from younger cohorts of taxpayers. Finally, we extrapolate the MLS effect

estimated at the threshold to other income levels, assuming a constant treatment effect per dollar of the tax. This counterfactual analysis implies that the MLS overall increased PHI coverage rate among singles from 34% to 36.6%.

This study contributes to the existing literature on the effect of monetary incentives on the demand for health insurance. The existing literature investigating the effect of subsidies on the demand for health insurance includes, among others: Gruber and Poterba (1994), Finkelstein (2002), Emmerson et al. (2001) and Rodriguez and Stoyanova (2004) for the cases of US, Canada, UK and Spain, respectively. In addition, Chandra et al. (2011) study the impact of an individual mandate on the characteristics of the insurance pool in the presence of large subsidies to premiums in the Massachusetts' Commonwealth Care program. We focus here on the effectiveness of mandates in Australia, which has a rather different health care system. Therefore, our main policy implications are relevant for other countries with public health care systems in which private insurance largely plays a supplementary role. This study also contributes to a growing literature in public economics on the behavioral responses to taxation, which uses discontinuous changes in tax rates as a source of exogenous variation: see e.g. Saez (2010), Chetty et al. (2011) and Kleven and Waseem (2013). This literature is primarily concerned with using the observed responses to kink points in the income tax schedule to estimate the elasticity of taxable income with respect to the tax rate, the magnitude of which is informative about the excess burden of income taxes. Similar to the evidence presented in Kleven and Waseem (2013), we document a pattern of sharp bunching at the MLS notch; this implies that this type of tax incentives likely lead to tax avoidance behavior on a relatively large scale.

## 2. Medicare levy surcharge

When introduced in 1997, the MLS was meant to be an insurance mandate targeted toward the high income uninsured, with separate income thresholds for single and married individuals. Until fiscal year 2008–2009, the annual household income threshold was \$50,000 for singles and \$100,000 for families/couples. The families' threshold also applied to single parents with dependent children. For families and single parents, the threshold increased by \$1500 for each child after the first.<sup>2</sup> To avoid the MLS, an individual must have been covered during the preceding fiscal year by the insurance policy with the front-end deductible or excess no greater than a specified limit (\$500 for singles and \$1000 for families/couples). Fig. 1 illustrates how the MLS policy would work with the income threshold set at \$50,000 for a single individual without dependent children, assuming that the marginal tax rate is equal to 30% throughout this income range: upon reaching the MLS threshold, a person without PHI coverage will experience a discontinuous drop in after-tax income of \$500 ( $\$50,000 \cdot 0.01$ ); someone with eligible health insurance coverage will not be affected by the surcharge.

The tax notch created by the MLS provides strong incentives to purchase insurance or to reduce your taxable income (i.e. engage in income shifting), either through tax evasion or tax avoidance. The relative magnitude of either response depends on the price of PHI coverage offered by the insurance funds. Existing evidence suggests that insurance funds take advantage of the MLS policy by designing low priced insurance policies that still satisfy the eligibility requirements; the cost of the cheapest plans approximately

<sup>2</sup> In fiscal year 2008–2009 these thresholds were increased to \$73,000 and \$150,000 respectively and annual indexation of the thresholds was introduced. Starting in mid-2012 the Fairer Private Health Insurance Incentives Bill introduced means testing of the 30% PHI subsidy and a tiered structure of the MLS.

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