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# THE TAX EXCLUSION FOR EMPLOYER-SPONSORED HEALTH INSURANCE

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## ABSTRACT

This paper reviews the issues around and impacts of the tax exclusion for employer-sponsored insurance. After reviewing the arguments for and against this policy, I present micro-simulation evidence on the federal revenue, insurance coverage, and distributional impacts of various reforms to the exclusion.

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Spending on health care is the largest and fastest growing element of government budgets in the United States. Despite our ostensibly private health system, almost half of medical spending is done by the government, primarily through the $400 billion Medicare program and the $300 billion Medicaid program. Yet the third largest government expenditure on health care is not included in this calculation: the exclusion of employer-sponsored insurance (ESI) expenditures from taxable income. In $2009 the U.S. state & federal governments will lose roughly $260 billion from the fact that expenditures by employers (and more than 80% of expenditures by employees) on ESI are not taxed as compensation. This is by far the largest of the tax expenditures by the federal government.

There are a number of coherent rationales for the ESI exclusion. In particular, in the absence of viable pooling mechanisms outside the employment setting in the U.S., the exclusion can be rationalized as the "glue" that holds employer pools together. At the same time, there are a number of problems associated with the exclusion. In particular, a number of studies document that the ESI exclusion leads to (likely inefficient) increases in insurance plan generosity. This exclusion is also highly regressive as both tax rates and ESI expenditures rise with income. As a result, economists have for years advocated reform of this tax expenditure.

Recently, policy makers have taken up this charge as well. Most notably, President Bush's 2008 budget proposed to replace the ESI exclusion with an individual deduction of $7500 for individuals holding health insurance. The Senate Finance Committee initially proposed to finance part of its expansion of health insurance in 2009 through a cap on the exclusion of high cost insurance plans. The Senate then moved to a

"Cadillac tax," an excise on high-cost insurance plans (with premiums of more than $8500 for singles and $23,000 for families) levied on insurers. Given that this excise tax would be likely to be passed on through higher insurance prices, this approximates the impact of capping the tax exclusion at those levels.

In this paper, I discuss the ESI exclusion and options for reform. I begin by providing background on the ESI system and its place in the larger insurance context in the United States. In Part II, I discuss the pros and cons of the ESI exclusion, and review evidence on the impacts of the exclusion on individual and firm behavior. Part III discusses the issues in modeling reform to the ESI exclusion. Part IV presents estimates of the extent of the ESI exclusion, and presents a variety of reform options for the exclusion. Part VI concludes.

## Part I: Background on ESI and Insurance Coverage in the U.S.

The goal of insurance providers is to create large pools of individuals with predictable distributions of risk. These pools can be created in many different ways; in the limit, national health insurance such as in Canada provides one national pool. The United States has long relied on the employer as the main pooling device for insurance. The growth in ESI dates back to the wage and price controls of WWII, which could be evaded through more generous provision of (untaxed) employee benefits, although the exclusion itself was not codified until several years later; these issues are reviewed in Thomasson (2000) and in Helms (2008).

Table 1 shows the distribution of insurance coverage in the U.S. in 2008 (EBRI, 2009). Over 61% of the non-elderly population receives ESI, which is 70% of all privately or publicly insured and 91% of the privately insured. Those over 65 are universally covered by the Medicare program, although a major expenditure of the ESI system is retiree coverage. The major non-ESI source of coverage for those under age 65 is the Medicaid program, which provides insurance to low income families, disabled and elderly.

Only 10% of private insurance is provided outside of the employment setting in the non-group market. While there are variations in the strength and regulation of this market across states, by and large it is a market where prices are high and variable, and where (in most states) individuals can be excluded entirely from coverage based on their health status. At a basic level, most argue, there is a fundamental failure of insurance pooling in this market.[1] Attempts to remedy this in states such as NY through community rating laws have led to excessively high premiums on average and an exit of healthy individuals from the market (AHIP, 2007).

The ESI exclusion initially applied only to expenditures by employers. But over time there has been a sizeable growth in Section 125 cafeteria plans, which allow employees (since 1978) to shelter their contributions to ESI from taxation as well. Currently, roughly 80% of those with ESI have access to a Section 125 account, although coverage is still very incomplete among small firms.

[1] There are some dissenting voices on this issue. Pauly and Herring (1999), for example, argue that prices in the nongroup market do not vary much more by health status than do group premiums. An important problem with that analysis, however, is that they are only able to examine the premiums paid by those who are allowed into the nongroup market; if individuals are excluded based on health, as seems to be the case, then this is a truncated distribution and would understate the true underlying variation on health.

## Part II: Benefits and Costs of the ESI Exclusion

*Why Have an ESI Exclusion?*

In this section I review the arguments for and against an ESI exclusion. As discussed earlier, the ESI exclusion grew out of a compensation anomaly around World War II, not any coherent rationale. Nevertheless, as we consider reforming the ESI exclusion, it is important to contemplate its benefits and costs.

The main argument for continuing the ESI exclusion is that it is the glue that holds together our existing system of employer-provided insurance. Repealing the exclusion by taxing health insurance benefits, some argue, will lead employers to stop offering health insurance to their employees. This will leave employees without access to actuarially fair pooling mechanisms and at the whim of the non-group market. But the non-group market may exclude those who are sick, leading to a large welfare cost from the reduction in insurance to those who value it most.

The extent to which this concern is valid depends on two factors. The first is how large an effect removing the ESI exclusion would have on employer offering of insurance. Employees value employers as an insurance purchasing mechanism for several reasons, of which the exclusion is only one; there are also the benefits of group purchase, negotiating power from group size, and ease of plan choice and administration. These will still be present even if the ESI exclusion is ended. Indeed, virtually all medium size and large firms in the U.S. have offered health insurance continuously over the past thirty years, despite enormous swings in the effective tax price of health insurance.

Gruber and Lettau (2004) examine the impact of tax price variation on employer-provided insurance; the larger literature on this topic is reviewed in Gruber (2004). They find that medium-sized firms are only very modestly sensitive, and large firms not at all sensitive, to the tax price of ESI. They do find that small firms are price sensitive, with an elasticity of small firm offering with respect to the tax price of -0.69. Therefore, while predicting the impacts of removing the exclusion go out of sample, there is no reason to think that there will be a wholescale exit of medium and large firms from ESI. I incorporate these estimates into the modeling below.

The second unknown factor is how a major influx of individuals into the non-group market will affect pricing in that market. The non-group market may function much better when its scale is dramatically increased by individuals leaving employer-sponsored insurance. While this may lower overall costs, however, there is little reason to think that it would reduce the enormous disparities in price and access by health status. Therefore, absent other reforms to make insurance available to all outside the employer setting, there is a reasonable second-best argument for maintaining the ESI exclusion.

*Costs of an ESI Exclusion*

Offsetting these benefits are the major costs of the ESI exclusion. First is the revenue cost of the exclusion, estimated below. Second, this tax expenditure is highly regressive, as documented below, as both tax rates and ESI expenditures rise with income. The ESI exclusion also biases individuals towards purchasing excessively generous insurance because they are paying with after-tax dollars on the margin.

There is a sizeable literature which tries to estimate the elasticity of health spending with respect to the tax exclusion, as reviewed in Gruber (2005). Gruber and Lettau (2004) estimate a sizeable elasticity of employer-spending among those firms offering insurance with respect to tax price of -0.7. This reflects both reductions in insurance generosity, however, and reductions in employer contributions that are shifted to employee contributions. Direct evidence on plan generosity comes from Gentry and Perress (1994), who used city-level variation in tax rates to show that more "elective" elements of benefits packages, such as dental and vision coverage, were very price sensitive.

Of course, elasticity of spending with respect to the tax price doesn't necessarily imply distortion, if there is a pre-existing bias to too little health insurance spending. But this does not appear to be the case. Existing evidence, particularly from the RAND Health Insurance Experiment, is clear that the optimal health insurance plan features high initial cost-sharing with protection against extreme out of pocket risk (Gruber, 2007). Yet, even in today's high health cost environment, the vast majority of employer-insured individuals have very modest cost sharing, with a relative paucity of high deductible plans in the ESI setting. While there are several competing explanation for this "over-insurance", a leading contender is the tax subsidy to ESI.

Finally, the promotion of the employer-sponsored insurance system is not necessarily a benefit to society. A large literature documents the distortions to the labor market associated with such a system, as reviewed in Gruber and Madrian (2004), including limited job to job mobility and distorted retirement decisions.

## Part III: Modeling the ESI Exclusion

To model the cost of the existing ESI exclusion, and to consider the impacts of options to reform the exclusion, I turn to a microsimulation model that I have developed over the past decade to model health insurance reform. This model is described in great detail in Gruber (2009), so I just summarize the key elements here, focusing in particular on the newly updated matching of employer premium costs that are central to the revenue estimate for the ESI exclusion.

The model takes as its base data from the February and March, 2005 Current Population Survey, recalibrated to 2008 populations. To these data are matched to information on health insurance premiums and health costs. Data on the premiums for employer insurance, and the distribution of premiums between employers and employees, comes from the 2004 MEPS. For non-group insurance, I use data from the MEPS to compute the underlying distribution of health spending by age and health status, and then add a load factor such that the distribution of premiums by age matches available data. All figures in the analysis are in $2009, and I use tax law as of 2009. I assume that the reaction to reform is immediate; in reality there could be a transition to the new equilibrium shown in the model.

These data are used to develop a micro-simulation model that computes the effects of health insurance policies on the distribution of health care spending and private and public sector health care costs. This model takes as inputs both the data sources described above and the detailed parameterization of reform options. The model first turns these policy rules into a set of insurance price changes; for example, if the policy intervention is a tax credit for non-group insurance, then the model computes the implied

percentage change in the price of nongroup insurance for each individual in the model. These prices changes are then run through a detailed set of behavioral assumptions about how changes in the absolute and relative price of various types of insurance affect individuals, families, and businesses.

The key concept behind this modeling is that the impact of tax reforms on the price of insurance continuously determines behaviors such as insurance take-up by the uninsured and insurance offering by employers. The model assiduously avoids "knife-edge" type behavior, where some critical level is necessary before individuals respond, and beyond which responses are very large. Instead, behavior is modeled as a continuous function of how policy changes (net of tax) insurance prices.

An important element of the modeling is therefore properly measuring the impact of the tax exclusion on the price of employer-sponsored insurance. The impact of the exclusion is to alter the tax price of employer sponsored insurance to:

$$TP = \frac{(1 - \tau_f - \tau_s - \tau_{ss} - \tau_{mc})}{1 + \tau_{ss} + \tau_{mc}}$$

where $\tau_f$ is the federal income tax marginal rate; $\tau_s$ is the state income tax marginal rate; $\tau_{ss}$ is the marginal payroll tax rate for the OASDI program (the 6.2% tax rate that is levied equally on employees and employers); and $\tau_{MC}$ is the marginal payroll tax rate for the Medicare HI program.[2] I differentiate the latter two programs because, beginning in the early 1990s, the taxable maximum for the HI program was increased above that for the OASDI program (and was eventually removed altogether); the marginal rate is zero above the taxable maximum for payroll taxation. For a typical worker in the 15% tax

[2] The reason that the payroll tax rate is additive in the denominator is that the employer is indifferent between purchasing one dollar of benefits or paying wages of $1/(1+ \tau_{ss} + \tau_{mc})$, since each dollar of wages requires a payroll tax payment as well.

bracket, facing a 5% state tax rate and a 15.3% combined payroll tax rate, this tax price is roughly 0.65; a dollar of health insurance costs 35 cents less than a dollar of other goods purchased with after-tax wages.

In doing this type of analysis, a number of assumptions must be made about how individuals will respond to tax subsidies, through their effect on the price of insurance. These assumptions have been developed based on the available empirical evidence reviewed above, although there are many holes in this literature that must be filled in order to fully simulate policy effects. These assumptions are reviewed in detail in Gruber (2009).

A key aspect of modeling health insurance policy is appropriately reflecting the decisions of firms. Economists tend to model firm decision-making as reflecting the aggregation of worker preferences within the firm. The exact aggregation function is unclear, as reviewed in Gruber (2002); in my model I assume that the mean incentives for the firm (e.g. the average subsidy rate for non-group insurance) is what matters for firm decision-making.

The fundamental problem faced by individual-based micro-simulation models is that data on individuals does not reflect the nature of their co-workers, so that it is impossible to exactly compute concepts such as the average non-group subsidy in a worker's firm. I address this problem by building "synthetic firms" in the CPS, assigning each CPS worker a set of co-workers selected to represent the likely true set of co-workers in that firm. The core of this computation is data from the Bureau of Labor Statistics that show, for workers of any given earnings level, the earnings distribution of their co-workers, separately by firm size, region of the country, and health insurance

offering status. Using these data, I randomly select 99 individuals in the same firm size/region/health insurance offering cell as a given CPS worker in order to statistically replicate the earnings distribution for that worker's earnings level. These 99 workers then become the co-workers in a worker's synthetic firm.

These synthetic firms then face three decisions about insurance: offering (whether to offer if now not offering, or whether to drop if now offering); the division of costs between employer and employees; and the level of insurance spending. Each of these is influenced by the tax treatment of ESI expenditures. For example, if both employer and employee ESI expenditures are subjected to taxation, this will lower offering; will lead to some shifting of premiums to individuals, since there was much less than full Section 125 coverage so the existing exclusion led to a bias in aggregate to employer spending; and will lead to a reduction in the generosity of ESI. Taxing just employer spending on ESI (while leaving employee contributions untaxed if through a Section 125 plan), however, will lead to a small reduction in offering and plan generosity, but a much larger shift from employer to employee financing of the premiums. Likewise, removing the Section 125 tax shield but retaining the exclusion for employer spending will lead to a smaller reduction in offering and plan generosity, but a shift from employee to employer financing of premiums.

While there are a large number of assumptions underlying the model, I focus here on the key assumptions about firm behavior. Firm decisions to offer insurance if the tax price falls (or to drop insurance if the tax price rises) are based on the size-specific elasticities of insurance offering estimated in Gruber and Lettau (2004). In particular, that paper finds that small firms (with fewer than 100 employees) are fairly price elastic

in their insurance decisions, with an elasticity of insurance offering with respect to its price of -0.69. On the other hand, they estimate only a small and insignificant impact on medium firms, and even smaller for large firms (more than 1000 employees). In the model,

A key assumption for this type of modeling is the assumption on the wage incidence of changes in employer-insurance spending. Gruber (2001) reviews the literature on incidence, and concludes that there is strong evidence for full shifting to wages of firm-wide changes in insurance costs, with some evidence of shifting to sub-groups within the workplace as well. I make a mixed incidence assumption for this model. Any firm-wide reaction, such as dropping insurance or lowering employee contributions, is directly reflected in wages. Yet any individual's decision, such as switching from group to non-group insurance, is not reflected in that individual's wages; rather, the savings to the firm (or the cost to the firm) is passed along on average to all workers in the firm.

This analysis is subject to three major limitations. First, I approximate the tax expenditure associated with retirees that receive tax favored employer spending. It is difficult to estimate the cost of this element of the tax expenditure, but based on comparison with estimates from the Joint Tax Committee I estimate that firms spend 10% of their ex-ante spending on retirees. Therefore, I calculate the effects of tax policy in the ex-ante world, and adjust overall tax changes upward by 10% of that ex-ante amount.

Second, I do not consider any feedback effects through changing composition of insurance pools. In current employer-sponsored insurance pools, healthy and young workers cross-subsidize their sick and older co-workers by paying community rated

insurance premiums that don't vary by age or health. Part of the reason that they are willing to undertake this cross-subsidization is that it is the only tax subsidized route to health insurance. If that tax subsidy is removed (or mitigated), then healthy workers may find better prices in a more closely experience-rated non-group market, and to some extent abandon the cross-subsidized employer pools. This will raise the price of ESI, which could exert further pressure on healthy workers to exit. This potentially important spiral of rising premiums is not included in the analysis. This effect could be reinforced through the reduced influence of non-discrimination rules that are enforced indirectly through the tax exclusion.

Third, and most importantly, there is an enormous amount of uncertainty associated with such a modeling exercise. A number of the key parameters on which these results depend, such as the tax-price elasticity estimates in Gruber and Lettau (2004), are estimated based on within sample variation in tax rates which is very modest relative to the complete elimination of the tax exclusion. As a result, the farther out of sample is the projected policy, the larger is the uncertainty attached to the estimates below.

## Part IV: The ESI Exclusion: Costs and Reform Options

*Base Case*

The base results for the cost and distributional impacts of the ESI exclusion are presented in Table 2. The first row provides the total federal revenue cost of the ESI exclusion, which is $263 billion. The next two rows divides that into federal income tax

and federal payroll tax components; roughly 60% of the revenue cost of the exclusion is through federal income taxes.

The next row shows as a note that there is a major state income tax revenue loss from the exclusion as well of over $30 billion in $2009. The analysis in the remainder of the paper will focus on federal revenue effects only, but this is an important consideration for states if the reforming the exclusion is used to finance coverage expansions for which states bear some cost.

The second panel of the table displays the distribution of the benefits of the ESI exclusion. About one-sixth of the benefits of the exclusion go to those in the lower half of the income distribution, and five-sixth to the upper half. The share of the benefits to the top income decile are more than thirty times as large as those to the bottom income decile. As noted earlier, this skewed distribution reflects both rising tax rates and rising ESI expenditures with income. This is illustrated in the third panel, which shows that both aggregate ESI expenditures and tax rates rise with income.

*Options for Repeal*

Table 3 extends the analysis to consider various forms of repeal of the ESI exclusion. The second column of Table 3 shows the results of repeal of the ESI exclusion. The financial results are identical to Table 2, but I also show impacts on insurance spending and coverage; the first column provides the ex-ante means of these variables. Recall that these findings must be interpreted with considerable caution, as they are using the price elasticity estimated from existing variations in the tax price to estimate the impact of a much more radical change in policy.

I find that this policy leads to a reduction in employer insurance spending of almost $183 billion, or about one-third of ex-ante employer spending. I also find that employee insurance spending falls by $17 billion, or about 10% of ex-ante employee spending. The last row of the second set of figures show the average employer annual premiums and employee annual contributions for a single plan. At baseline, on average in our sample, employers contribute $6850 and workers contribute $2030. When the exclusion is removed, the employer contribution falls dramatically, while the worker contribution rises slightly; overall worker spending falls, however, due to the reduction in the ESI covered population.

I estimate that the removal of the ESI exclusion leads to a reduction in the number of individuals with ESI of 15 million, which is roughly 10% of the number of ex-ante employer insured. This is a large number relative to the ex-ante stock of uninsured, 49 million, but is modest relative to the ex-ante stock of employer insured. I also estimate that a number of those losing employer insurance will gain insurance through other channels; roughly 30% of those losing ESI will choose to purchase non-group insurance or move to public coverage. So only about 70% of those losing ESI become uninsured according to these estimates.

Given the results in the Gruber and Lettau (2004) paper that drive the estimated employer responses, most of the reaction by employers happens in the small employer sector; large employers have offered insurance fairly consistently over time as the tax price has varied. There is relatively little change in employee take-up – most of the reaction is in employer offering. Once again, as with other estimates, it is important to remember that this is a largely out of sample prediction. In particular, if there is

significant health unraveling in the ESI pool of the type described above, the reduction in ESI could be larger.

Nevertheless, the policy leads to an increase in uninsurance of roughly 22% of the ex-ante number of uninsured. Table 4 shows the age and health characteristics of those ex-ante uninsured and group insured, and then for each run in Table 3 shows the comparable characteristics of those become uninsured and who move to non-employer insurance (non-group or public). Ex-ante, the uninsured are somewhat younger than the employer-insured, but in significantly worse health: 75% of those on ESI are in excellent or very good health, while only 60% of the uninsured are; and only 5% of those with ESI are in fair or poor health, while over 10% of the uninsured are.

When the exclusion is repealed, those becoming uninsured look very much like those who are ex-ante employer-insured. They are slightly older, but of comparable health. Relative to the ex-ante uninsured, this is a much healthier population, so the overall health of the uninsured improves. Those becoming non-group or publicly insured are much healthier than the average person in ESI; as noted earlier, it is the young and healthy who will find it most attractive to "peel off" from ESI to other sources of coverage when the tax subsidy is eroded. But this is a small share of those who were on ESI. Overall, there does not appear to be much of a change in the health mix of those remaining on ESI. This mitigates against any concern that we are missing dynamic impacts on ESI premiums from an eroding ESI health pool.

The third column of Table 3 (and the third set of columns of Table 4) considers the impact of removing the subsidy to employer spending only, maintaining the deductibility of section 125 accounts. Such a policy raises only $184 billion in new

revenues, or about 70% of the total from removing the exclusion on both employer and employee spending. This is lower than the ex-ante proportion of insurance spending that is done by employers, 75%, because of a shift of spending from newly taxed employer spending to tax-sheltered employee spending. Indeed, employer insurance spending falls by almost as much as in the previous column, while employee insurance spending rises by $66 billion. This highlights the leakages in revenue raising that can arise from partial reform. Moreover, this is likely an underestimate of such leakage, since my model does not endogenize adoption of Section 125 accounts. Such a policy would likely lead to an expansion of use of Section 125 accounts, and thereby even further shifting to employee contributions (and out of taxable employer contributions).

Column (4) shows the impact of the complementary policy: retaining the exclusion for employer spending but removing the tax deductibility of employee contributions through Section 125 account. This policy change raises $42 billion in revenues, or only 16% as much as the full removal of the subsidy despite employee contributions being 25% of employer spending ex ante. Once again, the reason is an endogenous shift from employee to employer spending under this policy; employer spending actually rises while employee spending falls by $42 billion, more than twice the amount than in the case where the exclusion is fully repealed.

The distribution of impacts is fairly similar in these two runs to the base case run in column (2). The section 125 only repeal is slightly more progressive than the other runs, reflecting the fact that tax favored employee payments are even more concentrated with income than is employer spending

The bottom of the table repeats the analysis, considering only the removal of the tax exclusion for income tax purposes, but retaining the exclusion for payroll tax purposes. If employer and/or employee spending on insurance was included in the wage base and taxed for payroll tax purposes, there may be pressure for least some offsetting increase in the social insurance benefits financed by those taxes. We may therefore overstate the net revenue gain by considering the revenues raised by inclusion of ESI spending in both the income and payroll tax bases.

Including ESI expenditures in the income tax base only leads to an increase in Federal revenues of almost $172 billion, which is roughly 65% of the revenues from including payroll taxes as well. The impacts on insurance coverage, employer spending, and employee spending are likewise proportionately smaller. Including ESI spending in the income tax base only leads to an erosion of ESI of almost 10 million persons, and a rise in the uninsured of almost 8 million. Employer insurance spending falls by $118 billion, and employee insurance spending falls by $14 billion.

The distributional impacts of this policy differ significantly, however, from including ESI in both the payroll and income tax bases. This policy is much more progressive because income tax rates are much more progressive than those of the flat (and capped) payroll tax. If only the income tax exclusion is removed, then the top half of the income distribution bears 85% of the revenue burden.

The remaining columns of the second panel show the effects of including only employer spending in the tax base, and of including tax-sheltered employee spending (e.g. repealing section 125 for these purposes). Once again, each of these partial reforms is somewhat blunted by the shift across types of insurance spending. The sum of the

revenues raised by these partial reforms, $152 billion, is about 10% less than the revenue raised from full repeal, or $172 billion.

*Options for Capping the Exclusion*

Full repeal of the ESI exclusion is perceived as a radical policy prescription and faces enormous political opposition. A natural alternative is to cap the ESI exclusion at some level, perhaps high at first, and then gradually tightening. This was the approach endorsed by the President's Panel on Tax Reform, which proposed that ESI spending above the typical cost of a Federal Employee Plan (at the time, $11,500 for a family) be included in the base of taxable income. And 2008 Presidential candidate Hilary Clinton included a cap on the exclusion of ESI premiums from taxation at the average premium level for families making more than $200,000 per year.

In Table 5, I examine the impact of proposals to cap the exclusion rather than remove it all together. I assume initially that there is a total cap on employer plus employee spending, and vary this below. There are many possible levels at which the exclusion could be capped, and for this exercise I choose the median national level of premiums; using the mean instead of the median yields similar results but about 17% less revenues. In this table I show paired results for (a) capping for both income and payroll tax purposes and (b) capping just for income tax purposes. The cap is at $5176 for single plans and $13675 for family plans.

I estimate that capping the ESI exclusion at the median level would raise about $47 billion if the cap were applied to both income and payroll taxes, and about $32 billion if the cap were applied just to income taxes. This is about 18% of the amount

raised from full repeal. On the other hand, capping the exclusion is much more progressive than removing it: for example, while about 17% of the revenues from repeal for both income and payroll tax purposes are raised from the lower half of the income distribution, only 6% of revenues from capping are raised from the lower half of the income distribution. Capping does lead to a large reduction in employer and employee spending, but it is only a fraction of the earlier amounts.

Capping also has the virtue of being much less disruptive to existing insurance arrangements. Modeling the impact of the cap on insurance coverage is challenging, of course, because in principle capping at the median should not cause any firm to not offer insurance, but in practice some firms will be uninterested in offering insurance unless it is very generous – and some firms won't be able to find an insurance policy that will be taken up by their employees unless it is very generous. In those cases capping the exclusion could lead firms to drop insurance coverage. I model the impact of a cap as proportional to the impact of full repeal; that is, I compute the impact of the cap on the effective tax subsidy facing firms and have firms react to the effective reduction in their tax subsidy. Doing so, I find a fairly modest impact of capping on insurance arrangements: only about 2 million individuals lose ESI, and the rolls of the uninsured increase by only about 1 million.

In the next set of columns in the Table I show the impact of capping the exclusion solely for employer spending at its median level, $4378 for singles and $10,177 for families. Capping only employer spending raises only three-quarters as much as capping total spending, due to a large evasion of the cap through shifting to employee

contributions. As noted above, this estimate likely understates the shifting since I do not endogenize the Section 125 decision.

A major controversy with such tax caps, however, would arise around the issue of who is hit by the caps. Taxing the highest levels of insurance spending will reduce the incentives for excessively generous insurance – but it will also lead to the largest burdens in high cost states and for firms with high cost workers. One response to this point is to note that these groups are exactly the ones who have benefitted for years from this tax exclusion, and all this policy does is remove a tax bias in their favor. This argument faces political difficulties, however, as individuals will compare the policy change to the baseline with the exclusion in place

Some of this disparity could be readily addressed through adjustments to the cap level itself. For example, the cap could be set on a state-specific basis, with the levels above being adjusted up or down based on the relation of premiums in that state to the national average to keep revenues constant. The cap could also be readily adjusted for the average age mix of employees in a health plan. These adjustments are not perfect as they would not capture variation in worker health beyond age. But if the tax exclusion is removed in the context of a larger reform which moves the insurance system towards community rating, these concerns would be minimized.

## Part VI: Conclusions

While public policy debates around the structure of the two largest government expenditure programs for health care, Medicare and Medicaid, there has traditionally been little discussion of the third largest government (tax) expenditure, the exclusion of

ESI premiums from income and payroll taxation. Yet discussion about reform of the ESI exclusion has heated up in recent years. In this paper I discuss the implications of the existing exclusion and the impacts of reform.

I conclude that the existing ESI exclusion is both very expensive and highly regressive, with five-sixth of the benefits flowing to the top half of the income distribution. Repealing or capping the exclusion could result in significant increases in government revenues and an improvement in revenue raising progressivity. Yet it would also lead to a significant reduction in insurance coverage. Thus, when considering changes to the tax treatment of ESI, policy-makers may simultaneously wish to examine other policies that affect the availability of non-ESI coverage.

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Table 1: Non-Elderly Americans' Source of Health Insurance Coverage

| | People (Millions) | Percentage of Population |
|---|---|---|
| Total Population | 262.8 | 100.0% |
| Private | 177.3 | 67.5% |
| Employment-based | 160.6 | 61.1% |
| Individually purchased | 16.7 | 6.4% |
| Public | 51.0 | 19.4% |
| Medicare | 7.7 | 2.9% |
| Medicaid | 39.2 | 14.9% |
| TRICARE/CHAMPVA | 7.8 | 3.0% |
| Uninsured | 45.7 | 17.4% |

Notes: Data from EBRI (2009). Figures may not sum to 100% due to rounding.

**Table 2: The Cost and Distributional Implications of the ESI Exclusion**

| (all figures in $millions) | | |
|---|---|---|
| **Federal Revenue Raised** | $263,000 | |
| **Federal Income** | $157,000 | |
| **Federal Payroll** | $106,000 | |
| **NOTE: State Income** | $31,000 | |
| | | |
| **Revenue Burden** | **Dollars** | **Percentage** |
| **Decile 1** | $2,000 | 1% |
| **Decile 2** | $2,000 | 1% |
| **Decile 3** | $6,000 | 2% |
| **Decile 4** | $13,000 | 5% |
| **Decile 5** | $20,000 | 8% |
| **Decile 6** | $26,000 | 10% |
| **Decile 7** | $34,000 | 13% |
| **Decile 8** | $42,000 | 16% |
| **Decile 9** | $55,000 | 21% |
| **Decile 10** | $62,000 | 24% |
| | | |
| | **Ex-Ante ESI Spending ($millions)** | **Avg. Marginal Tax Rate** |
| **Decile 1** | $13,000 | 16% |
| **Decile 2** | $12,000 | 20% |
| **Decile 3** | $25,000 | 29% |
| **Decile 4** | $43,000 | 30% |
| **Decile 5** | $58,000 | 32% |
| **Decile 6** | $78,000 | 34% |
| **Decile 7** | $101,000 | 36% |
| **Decile 8** | $115,000 | 39% |
| **Decile 9** | $134,000 | 41% |
| **Decile 10** | $151,000 | 42% |

Notes: Results from micro-simulation model described in the text. All figures are on $2009. Top panel shows revenue raised and subdivision into sources. The second panel shows the distribution of the increased revenue across deciles of the income distribution. The third panel shows the distribution of aggregate ex-ante ESI spending and average marginal tax rate across deciles of the income distribution. Deciles are defined separately for singles and marrieds.

## Table 3: Revenue and Population Impacts of Reforming the ESI Exclusion

| | | Income & Payroll Taxes | | |
|---|---|---|---|---|
| | Ex Ante Levels | Total Repeal | Boss Repeal | Worker Repeal |
| **Federal Revenue ($mn)** | $1,707,000 | $263,000 | $184,000 | $42,000 |
| **Federal Income** | $700,000 | $157,000 | $109,000 | $27,000 |
| **Federal Payroll** | $833,000 | $106,000 | $74,000 | $15,000 |
| **Change in ESI (mn)** | 152 | -15 | -13 | -2 |
| **Change in Uninsured (mn)** | 49 | 11 | 10 | 1 |
| **Employer Spending ($mn)** | $563,000 | -$183,000 | -$172,000 | $27,000 |
| **Employee Spending ($mn)** | $167,000 | -$17,000 | $66,000 | -$42,000 |
| **Firm / Worker Premium ($)** | $6850/2030 | $5180/2060 | $5330/3150 | $7280/1560 |
| **Revenue Burden** | | | | |
| **Decile 1 Cutoff:** | 0% | 1% | 1% | 0% |
| **Decile 2 Cutoff:** | 0% | 1% | 1% | 0% |
| **Decile 3 Cutoff:** | 1% | 2% | 3% | 2% |
| **Decile 4 Cutoff:** | 3% | 5% | 5% | 5% |
| **Decile 5 Cutoff:** | 5% | 8% | 8% | 7% |
| **Decile 6 Cutoff:** | 7% | 10% | 10% | 10% |
| **Decile 7 Cutoff:** | 9% | 13% | 13% | 12% |
| **Decile 8 Cutoff:** | 13% | 16% | 16% | 17% |
| **Decile 9 Cutoff:** | 19% | 21% | 21% | 21% |
| **Decile 10 Cutoff:** | 42% | 24% | 23% | 26% |

| | | Income Taxes Only | | |
|---|---|---|---|---|
| | Ex Ante Levels | Total Repeal | Boss Repeal | Worker Repeal |
| **Federal Revenue ($mn)** | $1,707,000 | $172,000 | $120,000 | $32,000 |
| **Federal Income** | $700,000 | $155,000 | $110,000 | $30,000 |
| **Federal Payroll** | $833,000 | $18,000 | $10,000 | $2,000 |
| **Change in ESI (mn)** | 152 | -10 | -8 | -2 |
| **Change in Uninsured (mn)** | 49 | 8 | 6 | 1 |
| **Employer Spending ($mn)** | $563,000 | -$118,000 | -$112,000 | $17,000 |
| **Employee Spending ($mn)** | $167,000 | -$14,000 | $41,000 | -$30,000 |
| **Firm / Worker Premium ($)** | 6850 / 2030 | 5800 / 1990 | 5910 / 2720 | 7130 / 1700 |
| **Revenue Burden** | | | | |
| **Decile 1 Cutoff:** | 0% | 0% | 0% | 0% |
| **Decile 2 Cutoff:** | 0% | 1% | 0% | 0% |
| **Decile 3 Cutoff:** | 1% | 2% | 2% | 0% |
| **Decile 4 Cutoff:** | 3% | 5% | 4% | 3% |
| **Decile 5 Cutoff:** | 5% | 7% | 7% | 6% |
| **Decile 6 Cutoff:** | 7% | 9% | 9% | 9% |
| **Decile 7 Cutoff:** | 9% | 12% | 12% | 13% |
| **Decile 8 Cutoff:** | 13% | 15% | 15% | 16% |
| **Decile 9 Cutoff:** | 19% | 22% | 22% | 22% |
| **Decile 10 Cutoff:** | 42% | 28% | 29% | 31% |

Notes: Results from micro-simulation model described in the text. All dollar figures are in $2009. Top panel shows changes to both the income and payroll tax treatment of ESI spending; bottom panel reforms the income tax treatment only. First column shows ex ante taxation/spending and population distribution; second column shows the changes from total repeal of the exclusion; third column shows the change from repealing the exclusion only for the employer's share of ESI expenditures; last column shows the change from repealing only the employee's share of ESI expenditures. Top rows in each panel show the ex ante levels and changes in tax revenues, in total and by course, in millions of dollars. Next rows show ex ante levels and changes in insurance coverage, by source, in millions of persons. Next rows show ex ante levels and changes in insurance spending by employers and employees, overall, and in terms of average premiums. The remaining rows show the distribution of the increased revenue across deciles of the income distribution; deciles are defined separately for singles and marrieds.

**Table 4**

| | Ex Ante Uninsured | Ex Ante ESI | Income & Payroll Tax: Complete Repeal Moving Unins | Complete Repeal Moving NG/Public | Boss Share Only Moving Unins | Boss Share Only Moving NG/Public | Worker Share Only Moving Unins | Worker Share Only Moving NG/Public |
|---|---|---|---|---|---|---|---|---|
| **Total Number (M)** | 49 | 156 | 11 | 4 | 10 | 3 | 1 | 1 |
| **Average Age** | 32 | 33 | 34 | 27 | 35 | 26 | 33 | 24 |
| **% in Excellent Health** | 28 | 40 | 37 | 44 | 37 | 43 | 38 | 43 |
| **% in V. Good Health** | 33 | 35 | 36 | 36 | 36 | 36 | 35 | 33 |
| **% in Good Health** | 29 | 20 | 22 | 18 | 22 | 18 | 21 | 22 |
| **% in Fair Health** | 8 | 4 | 4 | 2 | 4 | 3 | 4 | 2 |
| **% in Poor Health** | 3 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |

| | Ex Ante Uninsured | Ex Ante ESI | Income Tax Only: Complete Repeal Moving Unins | Complete Repeal Moving NG/Public | Boss Share Only Moving Unins | Boss Share Only Moving NG/Public | Worker Share Only Moving Unins | Worker Share Only Moving NG/Public |
|---|---|---|---|---|---|---|---|---|
| **Total Number (M)** | 49 | 156 | 7 | 2 | 6 | 2 | 1 | 1 |
| **Average Age** | 32 | 33 | 34 | 26 | 34 | 24 | 34 | 23 |
| **% in Excellent Health** | 28 | 40 | 39 | 45 | 37 | 44 | 36 | 40 |
| **% in V. Good Health** | 33 | 35 | 35 | 35 | 36 | 35 | 38 | 35 |
| **% in Good Health** | 29 | 20 | 21 | 17 | 21 | 18 | 22 | 22 |
| **% in Fair Health** | 8 | 4 | 4 | 3 | 5 | 3 | 4 | 2 |
| **% in Poor Health** | 3 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |

Notes: Results from micro-simulation model described in the text. Top panel shows changes to both the income and payroll tax treatment of ESI spending; bottom panel reforms the income tax treatment only. First two column shows ex ante characteristics of the uninsured and employer-insured before reform, in terms of population size, average age, and distribution of health status. The next pair of columns shows the number and characteristics of the population (a) moving into uninsured status and (b) moving onto non-group or public insurance, as a result of repealing the exclusion. The next sets of columns show the same facts for repeal of the employer subsidy only, then employee subsidy only.

**Table 5: Capping the Exclusion**

| | Income and Payroll Tax | | Income Tax Only | |
|---|---|---|---|---|
| | Both Capped | Boss Cap Only No Worker Repeal | Both Capped | Boss Cap Only No Worker Repeal |
| **Federal Revenue ($mn)** | $ 47,000 | $ 36,000 | $ 32,000 | $ 25,000 |
| **Federal Income** | $ 30,000 | $ 24,000 | $ 29,000 | $ 22,000 |
| **Federal Payroll** | $ 17,000 | $ 12,000 | $ 3,000 | $ 3,000 |
| **Change in ESI (mn)** | -2 | -2 | -1 | -2 |
| **Change in Uninsured (mn)** | 1 | 2 | 1 | 1 |
| **Employer Spending ($mn)** | $ -26,000 | $ -34,000 | $ -17,000 | $ -22,000 |
| **Employee Spending ($mn)** | $ -7,000 | $ 8,000 | $ -7,000 | $ 3,000 |
| **Firm / Worker Premium ($)** | $ 6,600 / 1,980 | $ 6,570 /2,190 | $6,880 / 1,970 | $ 6,670 / 2,110 |
| **Revenue Burden** | | | | |
| **Decile 1 Cutoff:** | 0% | 0% | 0% | 0% |
| **Decile 2 Cutoff:** | 0% | 0% | 0% | 0% |
| **Decile 3 Cutoff:** | 0% | 0% | 0% | 0% |
| **Decile 4 Cutoff:** | 2% | 3% | 3% | 4% |
| **Decile 5 Cutoff:** | 4% | 6% | 3% | 4% |
| **Decile 6 Cutoff:** | 7% | 6% | 7% | 8% |
| **Decile 7 Cutoff:** | 13% | 11% | 10% | 12% |
| **Decile 8 Cutoff:** | 17% | 17% | 17% | 15% |
| **Decile 9 Cutoff:** | 24% | 26% | 23% | 23% |
| **Decile 10 Cutoff:** | 33% | 31% | 37% | 35% |

Notes: Results from micro-simulation model described in the text. All dollar figures are in $2009. First set of columns shows changes to both the income and payroll tax treatment of ESI spending; second set reforms the income tax treatment only. First column within each set shows the impact of capping the sum of the employer and employee exclusion at the median employer plus employee contribution to ESI; second shows the impact of capping the employer exclusion at the median employer contribution to ESI. Top rows in each panel show the ex ante levels and changes in tax revenues, in total and by course, in millions of dollars. Next rows show ex ante levels and changes in insurance coverage, by source, in millions of persons. Next rows show ex ante levels and changes in insurance spending by employers and employees overall, and in terms of average premiums. The remaining rows show the distribution of the increased revenue across deciles of the income distribution; deciles are defined separately for singles and marrieds.