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THE IMPORTANCE OF THE MEANING AND MEASUREMENT OF "AFFORDABLE" IN THE AFFORDABLE CARE ACT

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ABSTRACT

This working paper highlights the practical importance of two critical but under-explored assumptions behind existing estimates of the Affordable Care Act (ACA)'s potential impact on the mix of employees and families who may have employer-sponsored health insurance (ESI) in the future or may receive subsidies in the new health insurance exchanges. The first assumption is whether ACA's affordable coverage rule will be interpreted to mean that employers must provide affordable single coverage or that they must provide affordable family coverage policies to workers with families to avoid paying a fine. The second assumption is how much employers and employees will cooperatively agree in the future to designing new compensation contracts to take advantage of the way "affordability" is determined. We show that depending on these assumptions, the ACA could lead to far more lower to moderate income families gaining access to affordable coverage through exchanges or, conversely, to far fewer of these families being covered by ESI, even if no employers drop their health insurance plans as a result of the new law. Using our stylized models, we find at one extreme that the share of private sector workers covered by ESI would fall by as much as 12.7 percentage points, relative to a case of full compliance with the law, if the ACA affordability coverage rule is interpreted to apply to family coverage and employees directly pay 100 percent of the cost of the ESI in premiums, with compensating higher wages making them no worse off. At the other extreme, we find no changes in the share of private sector workers covered by ESI along this margin if employee contribution shares do not change in the future and affordability is interpreted to refer to single coverage. What constitutes a realistic point between these two extremes depends on exactly how the affordability coverage rule will be interpreted and the degree that employers and employees will actually be able to make these adjustments because of labor market rigidities. This working paper's contribution is to point out the importance of these hitherto unexplored factors for future consideration in research that uses more sophisticated micro simulation models. In our stylized model, most of the effect of the movement onto the subsidized exchanges occurs when employees directly pay less than 50 percent of the ESI family premium. We conclude by discussing the limitations of stylized calculations relative to full simulation models, and directions for future research.

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An online appendix is available at:
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Introduction

One view of the Affordable Care Act (ACA)[1] holds that it will substantially expand health insurance coverage to uninsured Americans by providing families with incomes less than four times the poverty line the option of purchasing coverage at no more than about 10 percent of their income, without dramatically changing the terms under which the vast majority of working Americans now receive their health insurance.[2] Even though no ACA feature requires those who receive employer-sponsored health insurance (ESI) to alter their coverage, its critics contend that the nature of currently insured workers' coverage will change. They argue that ACA subsidies for health insurance purchased at the new exchanges will substantially alter employer decisions to offer coverage (Holtz-Eakin and Smith, 2010). Critics further point to surveys that report employer intentions to drop health insurance offers in the future (McKinsey, 2011) as evidence for their concerns.[3] However, whether employers drop coverage in the future depends heavily on the degree of sorting that occurs in the labor market. For instance, workers with family income greater than four times the federal poverty level who work in firms that drop coverage would find it disadvantageous to be left without an offer of ESI since they would lose the tax advantages of such coverage and might find that their alternative insurance choices are more costly because of higher administrative costs or adverse selection.

While it will be some time before the ACA implementation details are fully decided, a nascent literature attempts to predict behavioral consequences of remaining key decisions. Here, using highly stylized

[1] The full text of the Patient Protection and Affordable Care Act of 2010 (P.L.111-148) can be found at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h3590enr.txt.pdf and the Health Care and Education Reconciliation Act of 2010 can be found at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h4872enr.txt.pdf
More detailed reviews of the ACA provisions for employers can be found elsewhere, including Simon (2010).

[2] "First, if you are among the hundreds of millions of Americans who already have health insurance through your job, or Medicare, or Medicaid, or the VA, nothing in this plan will require you or your employer to change the coverage or the doctor you have. (Applause.) Let me repeat this: Nothing in our plan requires you to change what you have." (President Obama, to joint session of Congress, September 2009), reported at http://www.huffingtonpost.com/2009/09/09/obama-health-care-speech_n_281265.html

[3] It is also argued that ACA mandates requiring firms to provide workers with health insurance or face a fine will cause large scale reductions in hiring (Chow and Phillips, 2009, and Beacon Hill Institute, 2010). Employer mandates to provide health insurance to their workers will reduce incentives to hire low-skilled workers whose hourly wage rate is close to the federal or state minimum hourly wage rate. Such mandates increase workers' non-wage compensation and when this increase cannot be offset by declines in their wage compensation, analysts predict it will have the same depressing effect on employment as a minimum wage hike. However, because the major ACA expansion of health insurance coverage for low-skilled workers comes from increases in the income eligibility level for Medicaid, our estimates also suggest that the implementation of the ACA will have relatively small negative employment effects which will not be very sensitive to behavioral change assumptions. In an appendix available from the authors, we show that the magnitude of job losses implied by binding minimum wages would be relatively minor.

calculations, we provide a first approximation of the potential importance of as yet to be determined interpretations of the ACA's "affordability" language for estimates of its health insurance coverage impacts, under a model in which no employers drop health insurance.

We show that predictions regarding both access to affordable coverage subsidies and the extent of movement away from employer health insurance are quite sensitive to two critical assumptions whose implications are not well understood.

The first assumption is common to any prediction. To what degree will behavior change because of a new law? In this case, the behavior is the degree to which firms and their workers will alter their current contractual relations with respect to the explicit workers' share of the ESI premium. This is important because access to sliding scale government subsidies for purchasing exchange health insurance for families with incomes between 133 percent and 400 percent of the official poverty line is restricted to those without ESI and those whose ESI coverage is "unaffordable". But because the ACA affordable coverage rule is whether the worker's share of the premium is below 9.5 percent of his or her family income, we consider the extent to which employers and employees may find it in their interest to make their coverage classify as "unaffordable". Doing so would allow otherwise income-eligible workers to receive the exchange subsidy while they and all other workers in the firm receive higher wages to offset this rise in their health insurance premium. Our estimates suggest that there could be potentially large consequences for ESI and exchange coverage rates depending on how much employers and workers take advantage in the long run of the financial incentives to change the employee share of the premium. This result holds even though workers who choose the subsidized exchange option over ESI will have to pay their share of the exchange premium with post-tax dollars and their firms will be fined $3,000 for each such worker. Our analysis also suggests these main results could occur even if one assumes less than full pass through of the compensating wage differential for health insurance as higher wages.

The second factor is somewhat unique to the political process which created the ACA. Because the final ACA language was completely based on the U.S. Senate version of the bill, which would not have passed if amended in any way, some of the language in the bill is especially ambiguous. This made it difficult for the

Joint Committee on Taxation (JTC) to interpret it and the Congressional Budget Office (CBO) to score it in the usual way. And it has left considerable doubt as to how that language will be interpreted in the codifying of ACA regulations. The language in doubt is whether the affordable coverage rule applies to single coverage or family coverage for workers with families. The JTC initially interpreted the rule broadly to include family coverage for workers with families but later interpreted the rule narrowly to mean single coverage, whether or not the worker had a family. The CBO was instructed to use this narrow interpretation in their scoring of the ACA. We show that this as yet un-codified interpretation of the language of the ACA could dramatically affect the degree that the ACA affects ESI and exchange coverage estimates for lower to moderate income families, depending on the specific assumptions made about its meaning and employer behaviors, even if no employers drop coverage.[4]

Our main results are summarized in Figure 3 (described in detail below), which shows the fraction of private sector workers who would be covered by employer health insurance under different scenarios of future employee and employer premium cost sharing. We show that under some assumptions, the ACA would lead to far more lower to moderate income families gaining access to affordable coverage through exchanges or, conversely, far fewer such families being covered by ESI, even if no employers drop their health insurance plans as a result of the new law. Using our stylized models, we find that the share of private sector workers covered by ESI would fall by 12.7 percentage points relative to a case of full compliance with the law, if the

[4] The ACA contains language in section 1513 that states that the shared responsibility clause that triggers a fine occurs when a "… large employer fails to offer to its full-time employees (and their dependents) the opportunity to enroll in minimum essential coverage…" and "...at least one full-time employee…has been certified…as having enrolled..." in an exchange plan and received a subsidy. The section further stipulates that a large employer that has offered its "...full time employees (and their dependents) the opportunity to enroll in minimum essential coverage…" but nonetheless has one or more of its full time employee enroll in an exchange plan and receive a subsidy will trigger a different fine. Since fines are triggered only when employees are able to obtain subsidies in the exchange, the eligibility criterion is of great importance for both employers and their employees.
Section 1411 of the ACA lays out the rules for determining eligibility. It states that "The Secretary shall establish…whether an individual's coverage under an employer sponsored health benefit is treated as unaffordable…" Individuals attempting to obtain subsidies must demonstrate whether the coverage they were offered was affordable, if coverage was offered at all. Affordability refers to "the employee's required contribution…with respect to the plan exceeds 9.5 percent of the applicable taxpayer's household income." (1401_2_C_i_II).
The Joint Committee on Taxation (JTC) interprets the affordability clause as follows: "Unaffordable is defined as coverage with a premium required to be paid by the employee that is 9.5 percent or more of the employee's household income, based on self-only coverage." This is the definition of affordability used by the CBO in their modeling of ACA behavior. Following this interpretation, families will receive premium subsidies based on income only if they were not offered coverage at all, or if the firm offered coverage options such that the "single option" was unaffordable, or if the offered coverage did not met minimum essential coverage guidelines (was less than 60 percent in actuarial value; Section 1512:" if the employer plan's share of the total allowed costs of benefits provided under the plan is less than 60 percent of such costs").

ACA affordability definition is interpreted to apply to family coverage and employees directly pay 100 percent of the cost of the ESI in premiums (but are reimbursed with higher wages). This extreme outcome is shown by point B. At the other extreme, we find virtually no changes in the share of private sector workers covered by ESI along this margin if employee contribution shares do not change in the future and affordability is interpreted to refer to single coverage. This is shown by coverage continuing to stay at the "current" point; the average employee contribution in our sample of workers is 24 percent. Importantly, however most of the effect of the movement onto the subsidized exchanges occurs when employees directly pay between 25 and 50 percent of the ESI premium, as can be seen in this figure. By around 60 percent most of the effect of raising the employee share on ESI rates has occurred—most of the workers who are brought into the unaffordable definition by employee contributions above the 60 percent range have family incomes that are above four times poverty and hence do not receive a subsidy or are near that range and only receive a small one. In contrast, when single coverage is the affordable coverage rule, even when employees pay 100 percent of their ESI premium, few families will be judged to have unaffordabile coverage.

Summary of Methods and Main Findings

In this paper, we present stylized calculations using data from the 2009 Current Population Survey (CPS) for American private sector non-self-employed workers aged 17 to 64. We perform stylized and transparent calculation to show the importance of assumptions regarding the behavioral responses of employers and employees on ESI and exchange coverage and the critical role the, as yet to be determined, interpretation of the ACA's "affordability" language will have on their magnitudes. These stylized calculations are illustrative and are not meant to determine the specific point estimates of what will occur under reform. We leave the simulation of specific point estimates to later research with more comprehensive models. We conduct our calculations by first modeling a case where individuals are assumed to fully comply with the law without exhibiting strategic behaviors or considering alternatives. Using this as our base for comparison, we then focus on four "dynamic" cases where specific behavioral changes are allowed and where affordability takes two

possible meanings: the narrow-current premium case, the broad-new premium case, the broad-current premium case and the narrow-new premium case. (Appendix Table 3 provides a glossary of these terms.)

Coverage Under "Full Compliance" with Reforms

The first ACA health insurance mechanism we consider is to require all firms of 50 or more workers to provide affordable coverage to their full time workers or pay a fine. In addition to this "play or pay" mandated coverage provisions for large employers, a second mechanism for extension of health insurance through the ACA is the expansion of Medicaid to all those under 133 percent of the federal poverty level (regardless of whether or not they qualify for employer health insurance). Since the interaction of employer and exchange coverage is the focus of our paper, we abstract from Medicaid effects entirely by not modeling any behavioral changes for the population of adults living in families who are under the Medicaid eligibility threshold of 133 percent of the official poverty line. Thus, in all our models, Medicaid is provided to all such adults and their families. This is not to be interpreted as a result of our model; we do this for convenience, and altering this assumption has no consequence for our main analysis.

The third mechanism for expanding health insurance coverage involves providing sliding scale subsidies to otherwise uninsured lower and moderate income workers and their families to obtain health insurance through private plans participating in the health insurance exchanges. In our model, full compliance with the law means that only those not currently reporting ESI in the CPS take advantage of the exchange option. Full compliance also means all large firms extend coverage to their full time workers. Most remaining uninsured workers will purchase unsubsidized coverage under the exchange.[5] In terms of our stylized calculations of full compliance, ESI coverage increases from its pre-ACA level of 74.29 percent to 78.62 percent, as we detail below. Because our estimates of the ranges of effects in all scenarios we model are in terms of our illustrative calculations, they are not directly comparable to currently available CBO estimates or estimates of other

[5] The only individuals who remain uninsured are those for whom the exchange premium is greater than 10 percent of their income; this affects very few individuals, as we will explain later.

organizations.[6] We have chosen to use a base of "full compliance" rather than the pre-ACA case to illustrate the extreme range of outcomes that could occur along the dimensions of the cases we consider even assuming no firms drop their ESI coverage in these cases. This decision does not affect our main qualitative findings and in future work we will consider other starting points.

The various combinations of our two assumptions discussed above with respect to: (a) the ability of firms and workers to renegotiate the nominal share of the premium paid by the employer or employee; and, (b) the broad or narrow interpretation of the affordable coverage rule will greatly affect the mix of ESI and exchange coverage we predict following implementation of the ACA in the four dynamic cases we consider. In the first dynamic case we assume that the affordability definition is narrow (mandated firms must only provide affordable coverage for the worker) and that employers and employees maintain the current ESI premium split. This situation turns out to be no different than our full compliance case—ESI coverage at 78.62 percent. No workers who are offered ESI anticipate financial gains sufficient to overcome the firewall of both a narrow definition of the affordable coverage rule and a relatively low employee premium payment to gain access to exchange subsidies.

In the most dynamic case we focus on—a broad definition of the affordable coverage rule and a completely flexible use of the employee premium—we find that despite the fines on firms who offer insurance but whose workers choose to receive their health coverage through exchanges, it could be in the financial interest of the majority of workers in this family income category and their employers to "pay" rather than "play", while not compromising the health insurance options available to higher income workers at the same establishments.

The current combination of relatively high subsidies for lower to moderate income workers, who purchase health coverage from the exchanges and the relatively low fines on their employers when they do, incentivizes firms and workers in our model to change the composition of their compensation package. The

[6] These are not comparable for many reasons, including the fact that we first assume full compliance with the law before we introduce behavioral changes, and because we use only a subset of the US population (private sector non self employed workers of working age) to illustrate our analysis.

extent to which they actually would do so depends on many factors, including the time frame under consideration. Transaction costs of changing compensation packages are likely to be higher in the short run than in the long run when unrelated job creation and destruction, makes it easier to adjust these compensation packages. If in the long run employers of low and moderate income workers are able to set the share of the ESI premium all workers pay to a level which exceeds the affordability standard of 9.5 percent of family income for those workers who would otherwise be eligible for exchange subsidies on family income grounds, they could do so while providing higher wages for all workers across the board. This change does not affect the tax liabilities or insurance options of higher income co-workers who are not eligible for subsidies, as would happen if the employers dropped coverage outright. This also avoids violating non-discrimination laws that are extended under the ACA which stipulate that lower wage workers cannot be offered health insurance on less favorable terms than higher wage workers.

However, because of this nominal change in their compensation package, subsidy eligible workers could find it in their interest to shift out of their ESI and obtain coverage in the subsidized exchanges despite the fact that they must pay taxes on the extra wages they receive once they no longer receiving employer insurance—we assume that employer savings in health insurance are passed on through higher wages.[7] Higher income workers not eligible for exchange subsidies would continue to keep their ESI with no change in their overall compensation package or their tax liabilities—the increase in their ESI premium is simply offset by an equivalent increase in their wages, which are not taxed since they are used to pay the higher premium.[8]

[7] The literature on the incidence of health insurance costs is mixed and suggests there may be group incidence rather than individual incidence. Group incidence would lessen the scope for employees to take advantage of incentives relative to individual level incidence. It is also unclear empirically whether in the short run employers pass on the full costs to workers. In sensitivity analyses not included in the paper, we examined a case in which employers did not pass through 100 percent of the cost savings to wages. When we assumed that employers would only pass on as much of the savings as would cause the workers to make the decision that maximizes employer's profits, our ESI coverage numbers did not change. However, these numbes would change to the extent employees and their employers divide surpluses, a dimension not analyzed in this paper. (Further details available from the authors.)

[8] As an example to illustrate the tax neutrality of such adjustments, consider the following comparison. These adjustments need only occur at the firm level rather than at a worker level. Suppose workers in a firm currently pay $5,000 as a (pre-tax) employee contribution, and receives $5,000 as a (pre-tax) employer contribution to their health insurance. If another firm stipulated $4,000 as an employer contribution, and $6,000 as the employee contribution, the workers would be equally well off if pre-tax wages were $1,000 higher at the second firm.

Employers and employees in small firms will be even more incentivizes to do so since these small employers are not subject to fines if their workers receive exchange subsidies.[9]

In Figure 3 and accompanying Tables 5 and 6, we show outcomes for all possible changes in employee contribution amounts when affordability is broadly (family) or narrowly (single) defined relative to our full compliance model ESI rate of 78.62 percent. At one extreme, no change in ESI rates occurs when employee contribution shares do not change. At the other extreme, aggregate ESI coverage falls to 65.89 percent when we assume the employee pays 100 percent of the premium under the family affordability definition. But most of this potential effect is achieved by the time that employee premiums are around 50 percent.[10]

We also show the effects of a narrow affordable coverage rule to demonstrate which of the two assumptions we focus on are most important in explaining the difference between the extreme cases. The decline of ESI decreases slightly if we continue to assume that workers pay 100 percent of the premium but use the narrow definition of single affordability, resulting in 73.95 percent as the new ESI rate. Alternatively when we maintain the broad definition but hold the current premium paid by the worker constant the new rate is 76.74 percent. The dramatic differences we find in stylized calculations across our four dynamic cases have to date have not been explored in more sophisticated simulations of the consequences of ACA on ESI coverage rates. Our findings only illustrate the possible ranges of these alternative outcomes. What the actual consequences of the new law will be depends on the ultimate interpretation of the affordable coverage language in the ACA and how flexible employer and employee responses to it turn out to be.

Previous Estimates of the Effects of the Affordable Care Act

[9] Another possible avenue that employers have in the law but not considered in our calculations is that employers could make the actuarial value of their plans less than 60 percent.

[10] An alternative route for such workers to take advantage of the newly provided subsidized exchange coverage is to leave their current firm and work for a firm without ESI. For such workers who can perfectly sort, there are no firewall provisions regarding affordability and the applicable fine to their new employer per worker is lower. Holtz -Eakin and Smith (2010) demonstrate the consequences of this crowd out possibility using six stylized cases as illustrations. In the appendix we model the Holtz-Eakin and Smith (2010) case and find that it has a profound negative effect on ESI coverage, a change from 78.62 percent in the full compliance case to 61.89 percent once perfect job sorting takes place in large firms. A variation of this type of alternative route to subsidized exchange coverage that we do not model and would avoid all fines is for such workers to sort into small firms that do not provide health insurance

Several papers analyze the likely effects of health insurance reforms but none focus on the two factors discussed above. For example, Dubay, Cook, and Garrett (2009) simulate the effects of health reform on the uninsured, modeling a Medicaid expansion to 133 percent of the poverty line and an individual mandate.[11] They find that these two reform components would bring some financial assistance to three-quarters of the uninsured, with about half being eligible for subsidies and half being eligible for Medicaid. Holahan and Garrett (2011) discuss the impact of both health insurance and health care provisions in the ACA on employment and conclude that on net, there would be very small consequences.

Holtz-Eakin and Smith (2010) were the first to point out that the federal subsidies in the ACA intended only for those not eligible for ESI are so large that they could induce strategic behavior on the part of some employees, and tempt some employers to change their labor contracts to take advantage of these subsidies. Using hypothetical workers and a fine of $2,000 per worker (the case where large firms do not offer health insurance to their workers) they demonstrate when it will make sense for an employer to drop health insurance coverage, and the types of workers who will benefit from a switch from ESI to subsidized exchange coverage.

For instance, they calculate that for a large firm, with full-time employees living in families with income up to 200 to 250 percent of the poverty line (depending on how high health care costs will rise by 2014), employers could drop ESI, allow the worker to access the exchange subsidies, and make the employee better off through increased wages despite the fines. They note that whether firms will adjust fully will depend on certain inflexibilities in the labor market, but that "the massive federal subsidies are money on the table inviting a vast reworking of compensation packages." (Holtz-Eakin and Smith, 2010, p. 4.) In our work, we assume labor market rigidities make it unlikely, even in the long run, that firms will be comprised entirely of workers living in lower to moderate income families who prefer that their employers not offer them affordable coverage given the passage of the ACA and the option they will have to receive subsidized coverage on the exchanges. A alternative possibility through which workers and their employers may attempt to gain access to that "money on the table", that has not been considered thus far in policy discussions, is for them to mutually agree to reset the

[11] http://www.urban.org/uploadedpdf/411950_uninsured.pdf. More information about the Urban Institute Micro-simulation Model is available at http://www.urban.org/UploadedPDF/411690_microsimulation_model.pdf and http://www.ncvhs.hhs.gov/090227p4.pdf

employer-employee sharing of the premium within a firm so income-eligible workers (and their families) can receive exchange subsidies without requiring perfect sorting in the labor market.

There is also a growing literature assessing the impact of health reform in Massachusetts. In July 2007, Massachusetts was the first state to implement a package of reforms that included an expansion of public health insurance, subsidized exchange coverage, and employer and individual fines. While the specific issue of the definition of affordability and employee premium shares is not present in those reforms, it is noteworthy that there is no evidence that employers have dropped health insurance coverage (Long and Masi, 2008, and Gruber, 2011) as critics contended they may.

Reform Components Analyzed in This Paper

We consider the potential impacts of dynamic cases that allow firms and their workers to reconsider their compensation packages in light of the new law after first modeling a full compliance scenario. Our dynamic cases extend the analysis of Holtz-Eakin and Smith (2010) along several dimensions. Instead of using aggregate numbers and focusing only on how the enactment of the law will impact workers (assuming a family of four) in large firms with employer coverage, we use individual-based data from the CPS to look at the behavioral response to the ACA by all workers in our universe. We do so by showing how health insurance coverage and its distribution by source in 2008 (in the 2009 March CPS) would have changed by firm size, income-to-need ratio (a worker's pre-tax post-transfer family income divided by the value of the poverty line for a family of that size), and wage rate if these main ACA health insurance features had been implemented in 2008 and that all behavioral changes occur in that year.[12] Our calculations take into account the feedback loop that may exist if workers receive compensating differentials when they drop ESI. That is, we take into account that someone who is at the cusp of exchange coverage eligibility would no longer be eligible for coverage if they were to drop ESI and receive a wage increase. However, in unreported results, we assume employers control the portion of the compensating wage differential they provide in wage increases and do not necessarily pass 100 percent of it to their workers. When we do so, we find that our results are not sensitive to this

[12] We do this for the purpose of illustration; it will obviously take much more time for any behavioral effects to fully play out.

assumption. This is because such an assumption affects the distribution of the surpluses rather than the end ESI results themselves. However, if we were to assume that employers did not control the pass through rate and that instead it were set at some fixed value (e.g. 70 percent), this would dampen the extent to which employees and employers acted on the incentives we illustrate here.

In our analysis in this paper, we focus on non-self-employed working age (aged 17 to 64) individuals who are employed in private sector jobs, but our simulations consider relevant family characteristics (e.g., family income, whether the worker has other family members requiring coverage, etc.). In the first full compliance case, we model the employer mandate as requiring all large employers (50 or more workers) to ensure that all full-time workers (30 hours or more a week) are covered by employer health insurance, providing family coverage when appropriate. We assume all firms will provide such coverage rather than pay the fine. Exchange coverage is available to everyone, and we assume in our full compliance case that everyone who remains uninsured (and values insurance at least at 10 percent of income) will go into the exchange, but that no one who currently has coverage through some other means will drop that coverage.

The dynamic cases allow individuals to make calculated decisions about whether exchange coverage (or lack of coverage) makes them better off financially, under assumptions of full transparency. We then assume that firms and workers collaborate so that the best financial option for them results. We provide estimates of how high transactions costs would have to be in the long run for this range of estimates to be narrower than the full spectrum that is possible. We will focus on our four dynamic cases discussed above.

Data Sources and Compilation of Dataset

Our calculations are performed on a nationally representative sample of the population from the 2009 March Current Population Survey, which contains most of the details we need, and supplement it with additional data on average health insurance premiums from other sources. A lack of detailed information on coworkers at the same firm is a deficiency characteristic of all standard household surveys. More sophisticated simulation models create synthetic firms out of individual workers in surveys. The reason why knowing a worker's actual set of coworkers matters is that a firm makes decisions about health insurance with the current

(and potential future) workforce in mind, and we do not know this from household data. This matters less for illustrative calculations like ours when considering what effects legislation may have several years in the future, but should be kept in mind when interpreting our results.

A full description of how we construct our CPS-based data set and all assumptions made in our calculations are available in the Data Set Methods appendix accompanying this paper (http://www.nber.org/data-appendix/w17279). Briefly, health insurance, family income, and firm size data are taken from the 2009 March CPS.[13] Wage data come from the outgoing rotation group (ORG) questions of 2009 March-June CPS.[14] The March CPS asks individuals to report the size of their employer, and offers options of less than 10, 10-24, 25-99, 100-499, 500-999 and 1,000 and over. For purpose of the law, an important cutoff point occurs with respect to firms with 50 workers, meaning that workers in the 25-99 category must be assigned to either the 25-50 or 51-99 firm size category. The MEPSIC data show that of all firms with 25-99 workers, about half the workers are employed by firms in the 25-50 firm size category. Thus, we randomly assign half of the workers in the CPS 25-99 firm size category to the 25-50 firm size category and the rest to the 50-99 firm size category and report data by small (less than or equal to 50) and large (greater than 50) firms. Our sample size of workers in the 2009 March CPS is 36,950, representing 95,496,817 workers. Note that the BLS estimate for the number of total workers in the United States is 139,817,000 in July 2009.[15] As expected, this is higher than our total since we limit the sample to be age 17-64 private sector non self-employed workers.

Methods

[13] While the March survey asks about health insurance in the past year, questions asked in February relate to health insurance at that point in time. However, this special CPS supplement in February was not conducted in 2009. To ensure that workers are assigned only to one insurance status, we use a hierarchy that is explained in the Data Set Methods appendix.

[14] In each month, a quarter of the respondents in the CPS are asked detailed wage information. Because of the rotational structure of the CPS, those in the March CPS will be answering those detailed questions in March-June of the CPS. We first select the March CPS sample that meets the definition of private sector, non-self employed workers, aged 17-64, and record the total weight of this population (the number of individuals represented by this population definition). We lose a large subset of this population because of either failure to match to the ORG or failure to find a wage among those who match to the ORG, among these workers. We then re-weight the remaining matched wage sample to total the national population of private sector non-self employed workers aged 17-64 and proceed with this sample. However, in case those workers who report wages are systematically different from workers who do not report wages, we have created alternative versions of our key tables on the full sample of workers in the March CPS who are private sector, non-self employed workers, aged 17-64 (without requiring wage data) to test the sensitivity of our results. These tables did not show large differences from the main tables.

[15] http://www.bls.gov/news.release/empsit.a.htm, accessed August 2010.

Using data on workers' wages, firm size, coverage, and family incomes from the 2009 March CPS, we first establish the current level and distribution of health insurance coverage, and then simulate the effects of the main provisions of the ACA on this population, under different sets of simplifying assumptions. We begin with a discussion of the base-case before health reform, showing coverage rates by firm size, income, and wage categories. From this initial setting, we examine coverage rate changes that result from each main aspect of reform as they build upon each other, by income, firm size, and wage category. We first consider coverage patterns under a case of full ACA compliance without any strategic decision making.

As our main analysis, we show how the ESI share estimates will change under our four dynamic scenarios where employers and workers take advantage of the new exchange subsidies in their decisions about how work will be compensated, and where the interpretation of the affordable coverage rule in the ACA varies.

Full Compliance Case

The first row of Table 1 reports the source of health insurance coverage for the 95 million working Americans aged 17 to 64 employed in the private sector represented by our data. The primary target of the ACA among the working population is the 17.61 percent who have no health insurance. Of the 82.29 percent of workers who have some form of health insurance, the majority (58.90 percent) are directly covered by their ESI plan. Another 15.39 percent receive their insurance as a dependent on another worker's ESI. In total, 74.29 percent of all working age Americans employed in the private sector were covered by ESI plans in 2008. Only 5.09 percent were covered by health insurance purchased on the open market and 2.99 percent received their health insurance coverage from Medicaid or some other government provided plan. Thus, ESI is the primary source of health insurance for workers across all firm size, income-to-needs, and wage categories, but is more likely to be held by workers in large firms, with higher incomes, and higher wages. Those in small firms, those with low income-to-needs ratios, and those with low wage rates are much less likely to have any form of health insurance.

Appendix Table 1 contains the same Table 1 categories, but reports the number of workers in each cell rather than the percentage of workers by firm size, income-to-need, and wage rate categories. These numbers

are obtained from the CPS weights that show the number of workers represented by each CPS observation. For instance, of the 95 million working age Americans employed in the private sector, 64 million are in large firms. The other 31 million are in small firms that are not mandated to provide health insurance (i.e., not expected to pay a fine if they do not).

However, since small firms are less likely to have ESI plans, the 16.8 million uninsured workers are almost equally employed by small (8.7 million) and large (8.05 million) firms (see Table 2). Table 2 shows the number of uninsured workers whose employers will be subject to fines in the full compliance case, if they are not provided with ESI, relative to the total number of uninsured workers. Of the 16.8 million uninsured workers, only 8.05 million are employed in large firms and of those, 1.51 million of them work less than 30 hours per week. Hence, the ACA will only mandate the employers of 6.6 million or 41 percent of all uninsured workers to provide ESI or pay a fine.

Table 3 shows in greater detail the distribution of workers across different insurance categories, with column percentages adding up to 100 by category. As discussed in the context of Table 1 and Appendix Table 1, small-firm employees comprise a relatively smaller share of our sample of workers than large-firm employees. But a disproportionate share is uninsured, which is more precisely shown in Table 3. While 32.47 percent of our sample is employed in small firms, they make up 49.70 percent of all uninsured workers. The ACA will not penalize any of these firms, and, in our full compliance case, these firms are unlikely to increase their provision of ESI by much.

Another important ACA feature can be seen in the income-to-needs distribution in Table 3. While we saw in Table 1 that ESI is the primary source for health insurance of those who have some form of health insurance in all income categories, low income-to-needs workers are the least likely to have any form of health insurance. As can be seen in Table 3, 23.36 (14.43 + 8.93) percent of the uninsured have income below 133 percent of the family poverty line and therefore will be eligible after the ACA's expansion of Medicaid to this level of income. Likewise, 56.63 (21.52 + 21.86 + 13.25) percent of the uninsured whose income-to-needs ratios are between 133 and 400 percent of poverty will be potentially eligible for subsidies in the ACA created

insurance exchanges. The 20.02 percent of the uninsured whose income-to-needs ratios are above 400 percent of poverty will also be able to purchase exchange coverage but they are not eligible for a subsidy.

Hence, while the mandate on large firms to provide health insurance to their full-time workers misses the majority (59 percent) of uninsured workers who either work for small firms or are not full-time workers, the Medicaid expansion and the subsidies for the uninsured who go to the exchanges will potentially impact all but 20 percent of the uninsured population, those whose income-to-needs ratios are greater than 400 percent of the poverty line.

What is less obvious is that subsidies for the exchanges may also impact the decisions of those workers who are either directly or indirectly covered by ESI. As demonstrated in Table 3, a small percentage of these workers have income-to-needs ratios that are below 133 percent of the poverty line (2.99 percent of own employer and 1.38 percent of dependent). But a much larger percentage have income between 133 and 400 percent of the poverty line (36.9 percent of own employer and 28.7 percent of dependent). As can be seen in Appendix Table 1, this translates into 1.9 million currently covered ESI workers with family incomes below 133 percent of the poverty line who could be eligible for Medicaid coverage, and 25 million currently covered ESI workers with family income between 133 and 400 percent of the poverty line who could be eligible for subsidies if they switch coverage to the exchanges. These potentially eligible for subsidized exchange coverage but who currently have ESI coverage far exceed the ACA's target population of 16.8 million currently uninsured workers in our sample. But there are many reasons why these workers will not want to or be able to obtain the exchange subsidies. These reasons include the rules under which exchange subsidies are available only to those with unaffordable coverage, the fines that large employers must pay if workers or their families do obtain subsidies, the extra tax liabilities of workers who would receive higher wages if employers did not provide them with health insurance, and other institutional rigidities. However, under certain assumptions, there may be enough "money on the table" to overcome transactions costs and induce employers and employees to rework their compensation packages. While any switching behavior exhibited by these largely neglected 25

million current ESI covered workers will by definition be ignored in our full compliance case below, we will focus on this major behavioral effect in our four dynamic cases thereafter.

Table 4 displays the coverage outcomes that would result if there were full compliance with the main health insurance features of the ACA among Americans employed in the private sector if the ACA had been implemented in 2008. In the first two columns we repeat the numbers for the insured, (all sources—100 percent minus the percent uninsured), and ESI coverage rate (own and dependent) from Table 1. In the third and fourth columns, we show the insured and ESI rates that would result from full compliance.

Almost all of the increase in ESI coverage in the full compliance case occurs among workers in large firms, but because some dependents of these newly insured, large-firm workers are employed in small firms, even the share of small-firm employees with ESI rises slightly. This is because we first interpret the law broadly as stating that if the worker in question has dependents not covered through other means, then family health insurance coverage must be provided by large firms. Thus, full compliance with the law would mean that employers subject to the mandate offer coverage to workers as applicable (single or family) and workers take up that coverage. Even in this case, large-firm ESI coverage will not reach 100 percent because around 19 percent of uninsured employees in large firms work part-time. In this case with no strategic behaviors, we do not assume any small-firm workers who are uninsured prompt their employers to start offering coverage because of the individual mandate fine.[16] However, as previously explained, we assume that all workers who qualify for Medicaid take-up that coverage regardless of their initial coverage status.[17]

Dynamic Cases

In the dynamic cases that allow strategic behavior on the part of employers and employees regarding ESI and exchange coverage, we now allow all those who we assume would be offered ESI (because of the

[16] In our calculations, we do not consider the subsidies available to small firms to offer coverage because of their temporary nature of up to two years and because the full credit of 50 percent of the employer contribution towards coverage (which could be as low as 50 percent of the total, putting the credit as low as 25 percent of the cost of coverage) is available only to very small firms with very low-wage workers (firm size less than 10 workers, average annual wages less than $25,000), many of whom may be eligible for Medicaid or highly subsidized exchange coverage. The cutoff for Medicaid, 133 percent of the federal poverty level, is currently somewhat less than $30,000 a year for adults in a family of four

[17] An alternative possibility here is to assume that the remaining individuals, even those who are part-time workers, obtain employer coverage for reduced pay. This would increase ESI but this case is not considered here.

employer mandate or because they already have ESI) but are income-eligible for exchange subsidies to consider the option of subsidized exchange coverage if their ESI coverage can be classified as unaffordable. To protect against reductions of ESI, the ACA prohibits workers whose employer offers them health insurance from accessing the subsidized exchange market even if they would be eligible for it on family income grounds alone. But there is an exception to this rule that allows small- and large-firm workers to receive subsidized exchange coverage if their employer coverage is not affordable.[18] To guard against this exception subsidizing an unreasonable number of such workers, there are "firewall" (CBO, 2010) provisions in the law. When such workers receive subsidized insurance from an exchange, if they are employed in a large firm, that firm must pay a fine of $3,000. Small firms pay no fine. To meet the affordability test workers' ESI premiums must exceed 9.5 percent of their family income. However it is ambiguous whether Congress intended the affordable coverage rule to be defined by a broad (single or family coverage, depending on the worker's family status) or narrow standard (single coverage even if the worker has a family). Below we show how important this interpretation of Congressional intent will be by comparing dynamic cases using both a broad and narrow interpretation of the language of ACA. This is the first assumption whose impact on ESI coverage and employment we will test in our dynamic cases.

Internal Revenue Service (IRS) rules allow both employers and employees to contribute to health insurance premiums on a pre-tax basis, as long as employers establish the necessary paperwork (which almost all large employers do). This means that the split between employee and employer contributions for health insurance is largely an artificial one.[19] The second assumption, whose impact on ESI coverage and employment

[18] We ignore the provision regarding low actuarial value of plans. We also ignore a provision regarding "free choice vouchers" that may have applied to some employers as it was repealed as part of the 2011 budget act, (§1858 of H.R. 1473, Department of Defense and Full-Year Continuing Appropriations Act, 2011).

[19] For large employers this is a straightforward exercise. But for small employers, this is currently a more meaningful distinction because their ability to provide health insurance usually depends on the fraction of eligible employees accepting coverage. Small employers tend to have low employee contributions to ensure high participation rates, an issue that does not concern large employers. Insurer practices in unregulated markets allow them to put restrictions on terms of sale such as this. When reforms are instituted in the insurance market, this may not matter. For example, small firm exchanges will offer guaranteed issue plans with close to community rated premiums. These premiums will not depend on the participation rate. Thus, at the extreme, all employers could set the annual contribution just above 9.5 percent of the income of the highest family income worker to qualify for a subsidy ($88,900, thus $8,454) and bypass the affordability rule.

we will test in our dynamic cases is the importance of employers and their workers willingness to set the share of the premium all workers pay for ESI to a level which exceeds the affordability standard of 9.5 percent of family income for those workers who would otherwise be eligible for exchange subsidies on family income grounds and providing higher wages for all workers instead.

Our most dynamic case—a broad interpretation of the affordability coverage rule and full flexibility of employee premium—is consistent with the original interpretation of the ACA language by the JTC which used the broad definition of affordability. In it we hypothesize that employers might, with the cooperation of their workers, take advantage of the provisions in the law to give their workers in families living below four times the poverty line the option of taking advantage of subsidized exchange coverage even though it will require them to pay a fine.[20]

To distinguish our simulations finding from those of Holtz-Eakin and Smith (2010), we assume no changes in employee sorting patterns. Hence none of the possible reduction in ESI we illustrate using our model is caused by workers sorting into firms that do or do not offer ESI.[21] Despite our assumption that no resorting of workers occurs and that the only changes to employer provided health insurance are related to the share of the initial premium paid by the worker, in our most dynamic case we find that ESI declines and increases the take-up of subsidized exchange provided health insurance come close to those found in our case inspired by Holtz-Eakin and Smith (2010) which can be found in Appendix Table 2.

Even if many employers and employees do not renegotiate terms right away, there is more flexibility in the long run. The employer would then pay $3,000 a year for the marginal worker who goes to the exchange and receives a subsidy; in equilibrium only those workers for whom the exchange subsidy is larger than the $3,000 fine and the loss of the ESI tax deduction will choose to do so.

[20] Exchange coverage can be either in a single or a family plan. We assume that when a worker obtains a family plan with a subsidy in the exchange, only that main policy holding worker will trigger a fine for their employer. That is, a secondary worker in the same family who is a dependent under the exchange insurance policy will not trigger their own employer fine since the subsidy is technically received only by the main policy-holder worker.

[21] Another possible mechanism implicit in the Holtz-Eakin and Smith, 2010 calculations is that large-firm workers who wish to take advantage of exchange subsidies could sort into large firms where health insurance is not offered, and the employer would incur a fine of $2,000 for each of these workers. We also modeled the Holtz-Eakin and Smith (2010) case in our work (Table A-2). In this case, workers in large firms are allowed to sort into firms based on whether they find it in their interest for the firm to offer health insurance or not. In large firms a fine of $2,000 applies if the firm does not offer coverage. Workers in small firms do not face this fine so all who would qualify for an exchange subsidy will go as long as the subsidy is at least as great as the tax deductibility they would lose of ESI. When not offered coverage, workers and families can go to the exchange and receive subsidies to which they are entitled. This results in the greatest movement away from employer provided health insurance and into the subsidized exchanges by workers whose income is less than four times the poverty line (from 78.62 in the full compliance case—row 1 of column 4 in Table 4—to 61.66).

Our least dynamic case—a narrow interpretation of the affordability coverage rule and no change in employee premium—is consistent with the revised interpretation of the ACA language by the JTC and it is the one the CBO used in its simulations. In it we hypothesize employers and workers maintain the same employee ESI premium payment after the ACA is implemented as they did before. We show that the JTC decision to reinterpret the affordable coverage rule to the narrow one of single coverage even for workers with families, together with the assumption of no change in the current premium paid by workers (the CBO assumption), results in exactly the same outcome as in the full compliance case.

We also show two intermediate cases: a narrow interpretation of the affordable coverage rule but allowing the worker to pay the full premium and a broad interpretation of the affordable coverage rule but no change in premium.

Our aim in reporting these four cases is not to assert that all employers will set employee ESI premiums so strategically even in the long run, but rather to show the implications such behavior could have for the population of workers eligible for exchange subsidies.[22] Below, we consider the consequences of each of these alternative unintended behavioral adjustments to the law and the $3,000 fines they would trigger.

Comparing the most and least dynamic cases. Table 5 shows the distribution of coverage under the least and most dynamic cases discussed above. In the first three columns of Table 5 we, like the CBO assume a narrow definition of affordability and no changes in the premium paid. In the final three columns of Table 5 we contrast these results with the most dynamic case—broad definition and fully flexible premium payment. In both cases we use the same mechanisms to determine gains from a move from ESI to exchange coverage.

Specifically, workers living in families whose income is below four times the poverty level will qualify for exchange subsidies if their employer does not offer them coverage or if the coverage offered has unaffordable cost sharing based on the narrow standard in the first set of columns and by the broad standard in the second set. In the first set we assume no change in who pays the premium while in the second set of columns we assume full flexibility in establishing employee cost sharing. In both cases we assume workers and

[22] It is also possible that those workers could sort into a small firm, incur no fine and lead to a larger loss of ESI; we do not consider that possibility here.

their employers will consider this new worker option of purchasing subsidized health insurance from an exchange in adjusting the compensation package—but in the first case employer and employee do not consider changing the premium paid by the worker to gain eligibility. In contrast, in considering whether to include employee health insurance as part of an employee's compensation package or only providing monetary wages, in the more dynamic case they will recognize that switching from a compensation package that contains ESI to one containing only wages will mean that large firms will be subject to a fine and that both small and large firm workers will lose the implicit tax subsidy contained in tax free ESI coverage.

The behaviors we describe can be summarized by equations. In the equations below we assume that, for those workers who were ESI insured as the main policy-holder prior to the ACA, the relevant decision is only between keeping ESI or switching to exchange coverage (since we know they already bypassed the option of being uninsured even when there was no fine associated with being uninsured). But for those who were uninsured prior to the new law, we will compare their insurance options to being uninsured, to decide their final insurance status. We assume here too that those who are eligible for Medicaid would opt for it, regardless of their initial insurance status. The decisions regarding ESI, exchange coverage and being uninsured are summarized by the following equations.

The worker with ESI in the base case chooses to remain with ESI coverage if:

[1] $[(P_x - S_x)] > [(P_e - F_e)\,(1-t)]$

where P_x is the total price charged in the exchange,[23] S_x is the subsidy (based on their income-to-needs ratio after a compensating wage differential is received if they do not receive ESI), t is the marginal tax rate and P_e is the total price of a policy sold through the employer. The tax adjustment is made to the cost of employer coverage because the total cost is on a pre-tax basis. F_e is the fine when a worker from a large firm elects subsidized exchange coverage. The fine is $3,000 per marginal worker if the employee contribution is set higher

[23] We have used estimates from Kaiser Family Foundation. We have also used employer premiums from the MEPSIC as an alternative, as the Kaiser estimates are for the Silver plan with 70 percent actuarial value, and employer health insurance is generally more generous. The results in these alternative tables (available upon request) do not change our qualitative conclusions.

than a certain fraction of income. If the inequality in [1] does not hold, we assume the worker opts for exchange-based coverage.

In Figure 1, we show the distribution of the amount $[(P_e - F_e)(1- t)] - [(P_x - S_x)]$ for each worker in a kernel density graph. This shows whether the amount of after tax money received as compensation for agreeing not to receive affordable ESI is greater than the after tax money needed to obtain exchange coverage, and if so, by how much. A positive number means that the worker is better off trading in affordable ESI for a compensating wage differential and using it to obtain subsidized exchange-based coverage. The fraction of those with positive numbers who are able to realize these gains will depend on the "firewall"—whether the affordable coverage rule is defined in a broad or narrow way and whether firms can adjust employee premium splits. The universe included in Figure 1 is all workers who had ESI in the base case (full-time and part-time as well as small and large firms) and those who are covered by the employer mandate. It is important to demonstrate this distribution as it allows one to judge the importance of any transaction costs that could be introduced into the decision-making process.

For example, we assume in our Table 5 estimates that even if exchange coverage were only $1.00 cheaper on net, a worker would opt for that coverage over ESI (and vice versa). If there are certain perceived advantages to the exchange (greater range of choice) or to ESI (higher perceived quality over exchange coverage), we would then know how high these differences would have to be valued in order for it to have a substantial impact on our calculations even in the long run. As can be seen, only a small portion of the population is around zero (hence our calculations are not very sensitive to the introduction of a small amount of inflexibility or transaction costs in the decision making).

Next, we consider decisions facing those who were uninsured prior to reform. Mechanically, we approach these decisions in two steps. For full-time workers in large firms, we first ask which insurance option they would prefer (ESI or exchange). This calculation (equation 1) is conducted just as it is for workers who currently have ESI. Then we question whether the worker (who is uninsured at baseline in the CPS) would choose the winning status over the option of being uninsured. Unlike in the case of workers who already have

ESI, we cannot assume here that uninsured workers would value coverage at their lowest available cost option (ESI or exchange). This calculation also incorporates the individual-level fine for being uninsured. We assume that the value placed on health insurance depends on income and age (using 10 percent of family income). There are many ways to value health insurance for the uninsured. We chose this one because it is the maximum considered affordable in the legislation for families under four times the poverty line. In earlier legislation targeted on poorer families (Children's Health Insurance Program), the maximum cost for coverage of their children was 5 percent. When we used alternate values of 5 and 15 percent our results did not change in any meaningful way.

The decision of whether to be uninsured or not is summarized in equation [2]. The worker decides to be uninsured if:

[2] {Cost of outcome in [1] }> {(F_i + d) (Income)}

where F_i is the individual-level mandated fine, and d is 10 percent if the person is less than aged 35 and 20 percent if aged 35 or older. Income is family income.

As in Figure 1, Figures 2a and 2b show the distribution of surpluses from being uninsured, for all workers who were uninsured in the base case. Figure 2a shows surpluses for those who were uninsured in the base case and chose ESI coverage in the most dynamic case with a positive value indicating the choice of remaining uninsured. Figure 2b shows surpluses for who were uninsured in the base case and chose exchange coverage in the most dynamic case with a positive value indicating the choice of remaining uninsured. In our calculations, very few individuals chose to remain uninsured even when (d) was 5 percent of income, partly because of the individual-level fine and partly because very low income individuals receive Medicaid or generous exchange subsidies.

Once workers are assigned a final insurance status in our dynamic cases, we compare the insurance rates, ESI rates, and exchange rates to the full compliance case coverage rates. A table available upon request shows the numbers of workers (weighted and unweighted) who move from one insurance status to another going from the base to the full compliance and then to the dynamic cases.

The values in the first two columns of Table 5 are identical to the values in the last 2 columns of Table 4. That is, in our least dynamic case in which we assume a narrow definition of the affordable coverage rule along with no premium adjustments, no ESI covered worker is able to surmount the ACA firewall conditions and hence there is no ESI reduction. This outcome was assumed in the full compliance cases in Table 4. The third column of Table 5 reports exchange coverage in the least dynamic case. Its values are also the same as found in the full compliance case, although they are not explicitly shown in Table 4. There is no reduction of ESI in favor of subsidized exchange coverage despite the subsidized premium for exchange coverage, because the firewall of a narrow affordable coverage rule and an unwillingness of employers and employees to change the mix of premiums paid results in few workers with ESI being eligible for the subsidies among workers who would otherwise meet the family income test.

This is not the case in the most dynamic case (broad affordability and maximum change in premiums) in the second set of columns in Table 5 where the drop in ESI coverage is dramatic. ESI coverage declines from 78.62 percent in the full complaince case (which is also the narrow, no premium adjustments dynamic case as is seen in row 1 of column 2) to 65.89 percent in row 1 of column 5. Exchange coverage increases from 10.23 (row 1 of column 3) to 22.89 percent (row 1 of column 6) overall and from 27.98 (row 9 of column 3) to 68.18 percent (row 9 of column 6) for those with income between 133 and 200 percent of poverty. Exchange coverage increases from 18.26 to 54.27 percent for families between 201 and 300 percent of poverty and from 12.58 to 35.04 percent for families between 301and 400 percent of poverty.

Comparing intermediate dynamic cases. Table 6 reports the two intermediate cases and shows that moving from a broad to a narrow affordable coverage rule and reducing the ability of firms and workers to change the premium paid by the worker will reduce the ability of workers who would otherwise be eligible for subsidized exchange coverage to gain access to subsidized exchange premiums. ESI coverage falls from 78.62 (row 1 column 2 of Table 5) in the least dynamic case to 73.95 (row 1 column 2 of Table 6) percent when the narrow definition of affordability is used but firms and workers are still able to increase the ESI premium employees pay. Hence, a substantial move away from ESI, relative to our base case, will occur even under the

narrow affordable coverage rule used by the CBO. But it is considerably less than the fall in ESI coverage to 65.89 (row 1 column 5 of Table 5) percent using the original broader coverage rule. In this intermediate case, exchange coverage only increases from 10.23 (row 1 column 3 of Table 5) to 14.23 (row 1 of column 3 of Table 6) percent, much lower than the 22.89 (row 1 column 6 of Table 5) percent level in the most dynamic case. ESI coverage only falls from 78.62 (row 1 column 2 of Table 5) in the least dynamic case to 76.74 (row 1 column 5 of Table 6) percent when the broad definition of affordability is used but firms and workers do not increase the ESI premium employees pay.

Using three premium sharing points, the current level and when the employee pays 50 and 100 percent and two interpretations of the affordable coverage rule—narrow and broad—our tables showed how much these alternative cases influence ESI rates. In Figure 3 we more clearly show how this pattern changes using all possible sharing points for both our narrow and broad coverage rules. As can be seen in Figure 3 the choice of narrow or broad affordable coverage language makes no difference when employees pay a very small part of the premium. There is no ESI reduction because most workers have affordable coverage regardless of whether the single or family affordable coverage rule is applied. The mean employee sharing level in our data of 24 percent approximates the current share of the ESI premium paid by the worker and it is well within this no crowd out range. But crowd out becomes much more of a possibility as the share of the premium nominally paid by the worker increases. The level of ESI take up at 50 percent and 100 percent correspond to the numbers featured in our tables—points A, B, C, and D. As we saw when the narrow single coverage affordability definition is used even using a 100 percent employee paid premium will not lead to much crowd out. But this is not the case when the broad family affordable coverage rule is used. Crowd out increases very rapidly in the 26 to 50 percent range. By around 60 percent most of the effect of raising the employee share on crowd out has occurred—most of the workers above the 60 percent premium payment range have family income that is above four times poverty and hence do not receive a subsidy or are near that range and only receive a small one. Given that currently the mean employee share of the ESI premium is about 24 percent, an increase well into the range

of 26 to 60 is not implausible and would result in dramatic increases in movement of workers onto the subsidized exchanges and away from ESI.[24]

Discussion and Summary

Our stylized calculations illustrate the sensitivity of ESI and subsidized exchange coverage rate estimations following the implementation of the ACA to two understudied assumptions in the literature. We illustrate the importance of these assumptions under a conservative case in which workers do not re-sort across small and large firms, and no distortions occur in hours worked or contract work relationships, and where no employers drop coverage. The first assumption pertains to whether firms and their workers will alter their current contractual relations with respect to the share of the explicit ESI premium that workers pay when faced with incentives to do so. We find that at one extreme, a very large percentage of these family income eligible ESI covered workers and their employers would prefer that they take these subsidies even though their firms will be fined $3,000 for each of their workers whose ESI is judged unaffordable and who obtain subsidized coverage, and despite the fact that such workers will have to pay their share of the exchange premium with post-tax dollars.

The second is the unsettled question of how the affordable coverage rule will be codified in the final ACA regulations. The language in doubt is whether the affordable coverage rule applies to single coverage or family coverage for workers with families. The JTC initially interpreted the rule broadly to include family coverage for workers with families but later interpreted the rule narrowly to mean single coverage whether or not the worker had a family. The CBO was instructed to use this narrow interpretation in their scoring of the ACA. We show that this as yet un-codified interpretation of the language of the ACA could dramatically affect

[24] We also modeled the story proposed by Holtz-Eakin and Smith (2010) to measure ESI crowd out with our work (Table A-2). Here, workers in large firms are allowed to sort into firms based on whether they find it in their interest for the firm to offer health insurance or not. In large firms a fine of $2,000 applies if the firm does not offer coverage. Workers in small firms do not face this fine so all who would qualify for an exchange subsidy will go as long as the subsidy is at least as great as the tax deductibility they would lose of ESI. When not offered coverage, workers and families can go to the exchange and receive subsidies to which they are entitled. As shown in the appendix this results in a fall in ESI coverage in our population from 78.62 percent in our least dynamic case to 61.89 percent in the Holtz-Eakin and Smith case. This result assuming zero transactions cost and hence perfect sorting is not that much greater than our most dynamic result with no job changes of 65.89 percent.

the degree that the ACA leads to reductions in ESI and the degree to which lower income families receive affordable health insurance options, if coupled with flexibility in the share of the ESI premium paid by workers.

In our models we show that even without costly sorting of workers into firms along health insurance lines, one could see behavioral changes that lead in the extreme to almost as large a loss in ESI as if workers were able to sort, depending on how one interprets the affordability definition and the flexibility of employer premium contribution setting. Doing so, we show that not accounting for these dynamic behaviors and depending on full compliance models that ignore such behavior could lead to a substantial underestimation of the share of workers who might move out of ESI plans and into the subsidized exchanges. Although we do not have a comparable model or population to compare our most dynamic case results to the CBO case, the fact that the assumptions about affordable coverage rules and premium adjustments we make in the least dynamic case are the same as the CBO's assumptions make a comparison of our two cases informative.[25]

We provide two major contrasting hypothetical examples—one case that assumes little strategic behavioral change and another where employers and employees take full advantage of the current subsidies under a broad definition of the affordable coverage rule. Figure 3 more clearly show how this pattern changes using all possible sharing points for both our narrow and broad coverage rules. While ESI changes are small if the single coverage affordability rule is used even at very high employee premium levels, it is much greater when the family affordability rule is used and begins to rapidly increase in the 26 to 50 percent range. Given that the mean current employee share of the ESI premium is about 24 percent, the question raised by this analysis is what transactions costs may prevent employers and employees from acting in the future from incentives to increases these shares in tax neutral ways.

Limitations, Caveats and Directions for Future Work

[25] There are many other differences between our approach and the CBO approach. To name a few, they use different samples (we use a sub population of private sector workers while CBO uses the whole US population, different methods (we provide a simple and transparent simulation calculation while the CBO uses a sophisticated utility based simulation model), the CBO (and Holtz Eakin and Smith) assumes some crowd out due to employers dropping coverage, while we assume no firms will drop coverage.

It is not possible with certainty to know precisely what the consequences of the implementation of the ACA will be. Throughout the paper, we mention relevant assumptions and caveats; for added measure we also highlight and emphasize these in the discussion below.

Our stylized calculations are limited in a number of ways relative to more sophisticated simulation exercises. Here we highlight some of the more important caveats that we have made throughout the paper, but the reader is referred back to footnotes and the text for greater detail.

Our paper is only able to display a full range of possible estimates rather than provide a point estimate. The extent to which employers act in ways that are closer to one extreme or another depend on factors that are beyond the scope of our analysis. For example, employers and employees may have incentives to renegotiate compensation packages, but they may not be able to because of institutional rigidities. This could also occur because there may not be pass-through of health insurance costs in the form of higher wages at the individual level. Employers may not know the family income of their workers and whether workers are potentially eligible for subsidies in the exchange. Employers may fear that a consequence of raising employee contribution rates may be to incent their non-smoking workers to leave the employer risk pool (since tobacco use is an allowed rating factor that we do not consider in our work), and this may reduce their incentive to increase premium contributions. Employers may also fear that despite the tight regulations on what are now allowed rating factors under insurance reform, they may be denied coverage if their employee take-up rate drops beyond a certain level, a concern especially for small firms that may lead them to drop coverage entirely. Workers may not understand that the reason their wages increased is because employers increased their employee contributions. However, these transaction costs are likely to be less in the long run than in the short run. That is, in the short run, workers are likely to be resistant to change, but over the course of a 10-year horizon when unrelated job creation and destruction are vehicles for labor markets readjustments, these transaction costs are likely to be less. Our kernel density plots showing “money on the table” illustrate how high these transaction costs would have to be to prevent employers and employees from changing their contracts in response to the ACA.

Another factor we address is that our analysis uses exchange premium estimates based on the Kaiser Family Foundation's calculator for the cost of the Silver Plan variety. These costs are likely to be lower than typical for employer purchased health insurance. This is the case since employer plans are on average higher in actuarial value than the Silver Plan. While our Kaiser estimates are adjusted for age, we did not adjust our calculations for tobacco use status, which could lead exchange premiums to be higher for some low income individuals. In sensitivity analyses available upon request, we recalculated our models using employer premiums in place of exchange premium estimates from the Kaiser Family Foundation, and found our estimates did not differ noticeably. However, if the employees consider exchange coverage as inferior because of uncertainties associated with its use, at least in the short run, they will be less willing to substitute their current ESI coverage for exchange coverage. Low income families with children who are eligible (but unenrolled) for Medicaid or SCHIP may also find exchange coverage less desirable, if their children are already enrolled in these publically provided coverage plans. Our estimates are useful in illustrating how high these distaste transaction costs discussed in this section would have to be for individuals to not act upon the "money on the table" incentives created by the ACA.

There are also many limitations in our paper that may lead to greater ranges of impacts than we illustrate. Most importantly, we do not allow any firms to drop health insurance outright. If they were to do so, the applicable fine per employee is $2,000 rather than $3,000, which increases incentives for firms and income eligible workers to cooperate in facilitating these workers opting for exchange coverage. We also do not assume that the labor market responds by increasing the fraction of jobs for workers in low or moderate income families that occurs in small firms with less than 50 workers that are exempt from ACA mandates. Similarly we do not assume that any employers consider increasing their hiring of part-time workers or other types of labor (such as out sourcing to other countries or substituting capital for labor) in the long run in ways that would reduce their liability for health insurance.

Our paper does not provide estimates that are directly comparable to those from CBO or other entities, for several reasons including the fact that we illustrate the impact of our assumptions relative to a case of full

compliance with the reform components. But our analysis does clearly show that estimates that ignore these potentially different interpretations of the affordable care rule and the flexibility in premium share adjustments they may produce do not allow consideration of the sensitivity of their ESI and subsidized exchange coverage outcomes to a plausible range of possibilities. A valuable next step for policy analysis research in this regard would be to examine using more sophisticated analyses how coverage impacts may be affected by these different possible affordability interpretations, and the assumptions regarding employer and employee responses in premium cost sharing.

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Table 1. Insurance Status of Workers, by Firm Size, Income, and Wage Categories – Percent within Each Category

		All (1)	Uninsured (2)	Own Employer (3)	Dependent Employer (4)	Non-group (5)	Publicly Insured (6)
Weighted Percent		100.00	17.61	58.90	15.39	5.09	2.99
Number of Observations		36,950	6,047	21,619	6,276	1,809	1,242
Population Count		95,496,817	16,818,385	56,252,143	14,697,092	4,864,240	2,856,417
Row Percentages							
Firm Size	Small Firm	32.47	49.70	22.51	41.44	52.97	45.46
	Large Firm	67.53	50.30	77.49	58.56	47.03	54.54
Total (all firms)		100.00	100.00	100.00	100.00	100.00	100.00
Income-to-needs ratio	100 or less	4.55	14.43	1.35	0.72	4.38	29.05
	101-133	3.18	8.93	1.64	0.66	3.09	12.26
	133-200	9.20	21.52	6.22	3.47	9.46	22.95
	201-300	15.29	21.86	14.59	10.20	15.09	16.77
	301-400	15.17	13.25	16.09	15.03	16.04	7.65
	More than 400	52.62	20.02	60.12	69.92	51.94	11.31
Total (all incomes)		100.00	100.00	100.00	100.00	100.00	100.00
Wage category	$0-$6.24	2.40	5.27	1.00	3.19	3.94	5.92
	$6.25-$7.25	3.37	7.74	1.08	5.24	4.49	12.27
	$7.26-$13.50	34.85	57.57	24.57	40.55	40.49	62.56
	More than $13.50	59.38	29.42	73.35	51.02	51.08	19.25
Total (all wages)		100.00	100.00	100.00	100.00	100.00	100.00

Source: CPS data estimated by the authors.

Notes:

1. The sample consists of private sector workers ages 17 to 64 years who were interviewed in the March 2009 Current Population Survey (CPS). We restrict the sample to those with wage data available in the Outgoing Rotation Group questionnaire of March, April, May or June CPSs of 2009, and whose firm size was non missing. We lost 302 observations out of an initial 64,046 due to improper merge results, 75 observations due to missing hours, 26,897 observations due to lack of wage data, and 649 observations due to missing firm size. See data appendix for further details. Half of the workers in firm size 25-99 were randomly assigned to the large firm category (more than 50 workers) while the other half were randomly assigned to a small firm. All figures are weighted to represent the US population by weights provided in the CPS March supplement. Workers are assigned to only one insurance status, using a hierarchy described in the text. Income to needs ratio is calculated based on data reported for 2008. Workers whose wages appeared to be below the applicable state minimum wage were re-assigned to small firms so that the employer mandate did not apply to them. This affected 827 observations.

Table 2. Distribution of Uninsured Workers, by Firm Size and by Part-Time vs. Full-Time

	Part Time	Full Time	Totals
Small Firm	1,677,626	7,087,463	8,765,089
Large Firm	1,506,389	6,546,907	8,053,296
Totals	3,184,015	13,634,370	16,818,385

Source: CPS data estimated by the authors. Population counts are presented.

Notes:
1. See Table 1 Note 1

Table 3. Distribution of Insured and Uninsured Workers, by Firm Size, Income, and Wage Categories

		All (1)	Uninsured (2)	Own Employer (3)	Dependent Employer (4)	Non-group (5)	Publicly Insured (6)
Column Percentages							
Firm Size	Small Firm	100.00	26.96	40.84	19.64	8.31	4.19
	Large Firm	100.00	13.12	67.59	13.35	3.55	2.42
Total (all firms)		100.00	17.61	58.90	15.39	5.09	2.99
Income-to-needs ratio	100 or less	100.00	55.93	17.51	2.44	4.91	19.12
	101-133	100.00	49.44	30.32	3.21	4.94	11.53
	133-200	100.00	41.19	39.81	5.80	5.24	7.46
	201-300	100.00	25.17	56.19	10.26	5.03	3.28
	301-400	100.00	15.39	62.48	15.25	5.39	1.51
	More than 400	100.00	6.70	67.30	20.45	5.03	0.64
Total (all incomes)		100.00	17.61	58.90	15.39	5.09	2.99
Wage category	$0-$6.24	100.00	38.70	24.67	20.47	8.38	7.39
	$6.25-$7.25	100.00	40.46	18.80	23.93	6.79	10.89
	$7.26-$13.50	100.00	29.09	41.53	17.91	5.92	5.37
	More than $13.50	100.00	8.73	72.76	13.22	4.38	0.97
Total (all wages)		100.00	17.61	58.90	15.39	5.09	2.99

Source: CPS data estimated by the authors.

Notes:

1. See Table 1 Note 1

Table 4. Percent of Workers Insured, by Firm Size, Income, and Wage Categories – Full Compliance Case

		Insured (Base) (1)	ESI (Base) (2)	Insured (After Full Compliance) (3)	ESI (After Full Compliance) (4)
Weighted Percent		82.39	74.29	99.12	78.62
Number of Observations		30,903	27,895	36,666	29,282
Population Count (millions)		78,678,432	70,949,235	94,653,751	75,078,153
Row Percentages					
Firm Size	Small Firm	73.04	60.49	97.86	60.10
	Large Firm	86.88	80.93	99.72	87.52
Total (all firms)		82.39	74.29	99.12	78.62
Income-to-needs ratio	100 or less	44.07	19.95	100.00	0.00
	101-133	50.56	33.53	100.00	0.00
	133-200	58.81	45.61	100.00	63.69
	201-300	74.83	66.45	100.00	77.57
	301-400	84.61	77.74	100.00	84.99
	More than 400	93.30	87.76	98.32	91.24
Total (all incomes)		82.39	74.29	99.12	78.62
Wage category	$0-$6.24	61.30	45.14	98.14	44.24
	$6.25-$7.25	59.54	42.73	97.76	49.33
	$7.26-$13.50	70.91	59.44	98.59	66.43
	More than $13.50	91.27	85.98	99.54	88.82
Total (all wages)		82.39	74.29	99.12	78.62

Source: CPS data estimated by the authors.

Notes:

1. See Table 1 Note 1
2. We assumed that individuals value health insurance at 10% of income, and became uninsured if what they paid for coverage exceeded this amount.

Table 5. Percent of Workers Insured, by Firm Size, Income, and Wage Categories – After Simulated Dynamic Reform Steps

		Narrow, No Premium Adjustments			Broad, Full Premium Adjustments		
		All Insured (1)	ESI (2)	Exchange (3)	All Insured (4)	ESI (5)	Exchange (6)
Weighted Percent		99.12	78.62	10.23	99.05	65.89	22.89
Number of Observations		36,666	29,282	3,474	36,640	23,734	8,996
Population Count (millions)		94,653,751	75,078,153	9,771,176	94,592,220	62,926,138	21,861,660
Row Percentages							
Firm Size	Small Firm	97.86	60.10	23.58	97.82	48.72	34.92
	Large Firm	99.72	87.52	3.81	99.65	74.15	17.11
Total (all firms)		99.12	78.62	10.23	99.05	65.89	22.89
Income-to-needs ratio	100 or less	100.00	0.00	0.00	100.00	0.00	0.00
	101-133	100.00	0.00	0.00	100.00	0.00	0.00
	133-200	100.00	63.69	27.98	100.00	23.49	68.18
	201-300	100.00	77.57	18.26	100.00	41.56	54.27
	301-400	100.00	84.99	12.58	99.84	62.37	35.04
	More than 400	98.32	91.24	5.62	98.25	91.07	5.71
Total (all incomes)		99.12	78.62	10.23	99.05	65.89	22.89
Wage category	$0-$6.24	98.14	44.24	29.06	98.14	34.16	39.14
	$6.25-$7.25	97.76	49.33	17.23	97.71	38.12	28.39
	$7.26-$13.50	98.59	66.43	14.07	98.53	50.80	29.63
	More than $13.50	99.54	88.82	6.82	99.47	77.61	17.97
Total (all wages)		99.12	78.62	10.23	99.05	65.89	22.89

Source: CPS data estimated by the authors.

Notes:

1. See Table 1 Note 1
2. The dynamic scenario allows individuals to choose ESI, exchange coverage or uninsurance, based on several rational decision rules.

Figure 1. Deciding Between ESI and Exchange Coverage

This shows “money on the table”, after taking taxes and fines ($3,000) into account. Net of fines and taxes, there are still these incentives for those who have ESI in the full compliance scenario (covered by employer mandate, and all who otherwise also have ESI).These figures include all workers (small and large firm, full time and part time workers.) Positive values are potential benefits from dropping ESI and obtaining exchange coverage.

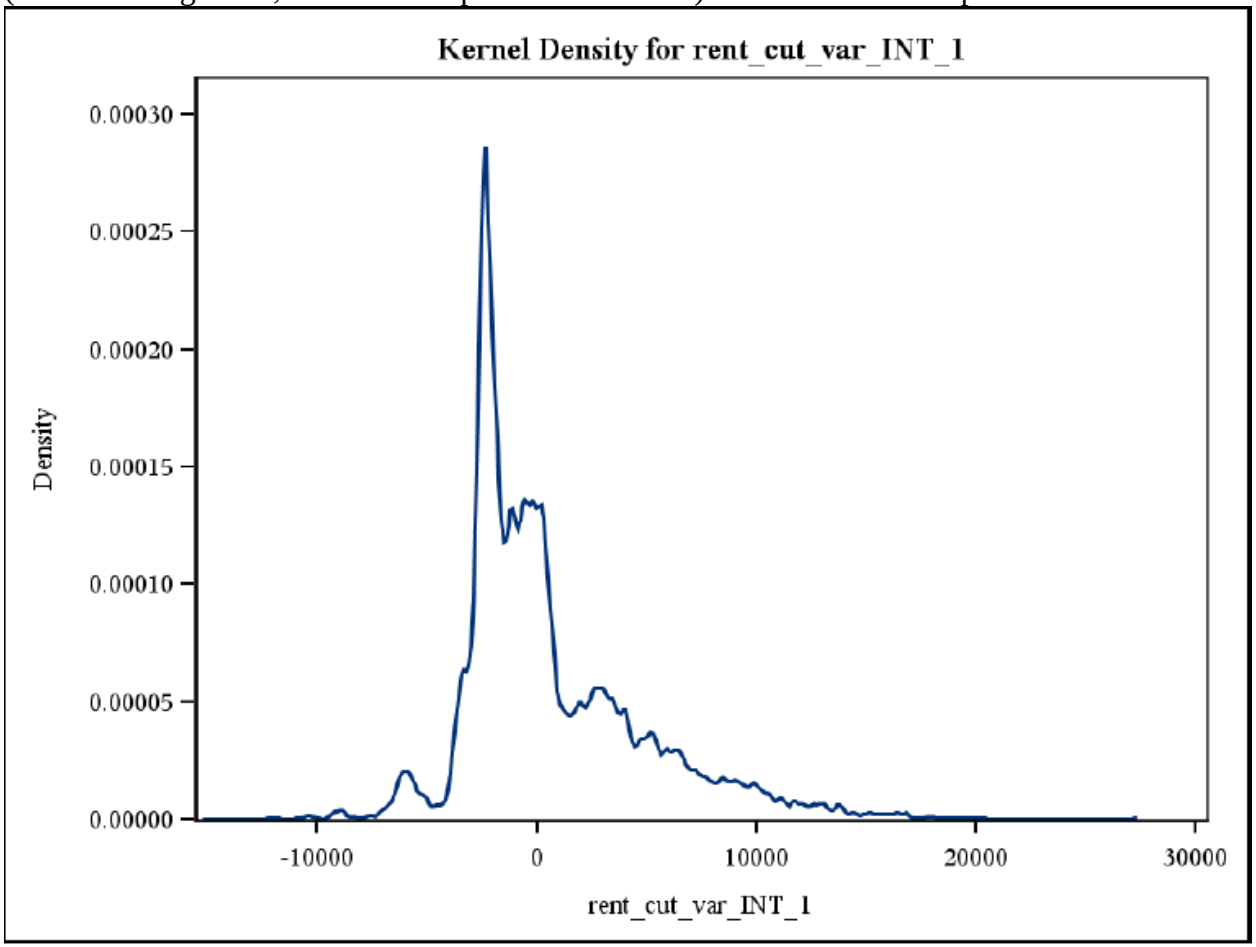

Figure 2a. Deciding Between ESI and No Insurance

This shows "money on the table" for those workers from Figure 1's universe who favor ESI over exchange coverage (are in the negative area), but were uninsured in the base case. Positive values indicate benefits from being uninsured, while negative values indicate benefits to staying with ESI. Unlike Figure 1, Figure 2a depends on the particular scenario in question. For illustrative purposes and in the interest of brevity, we show here Figure 2a only for the fully flexible case (broad definition, full premium adjustments).

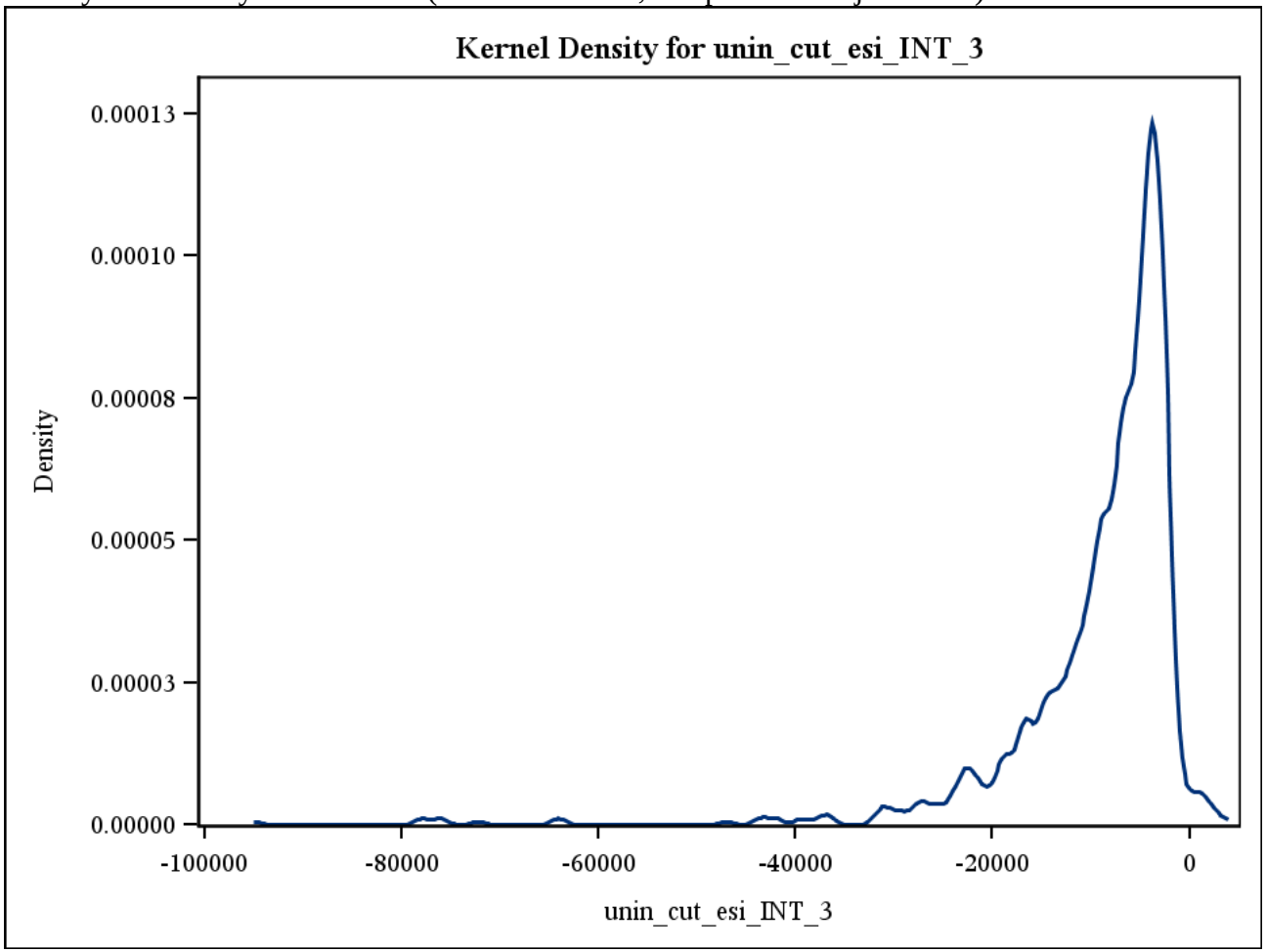

Figure 2b. Deciding Between Exchange Coverage and No Insurance

This shows "money on the table" for those workers from Figure 1's universe who favor exchange over ESI coverage (are in the positive area), but were uninsured in the base case. Positive values indicate benefits from being uninsured, while negative values indicate benefits to staying with exchange coverage. Unlike Figure 1, Figure 2b depends on the particular scenario in question. For illustrative purposes and in the interest of brevity, we show here Figure 2b only for the fully flexible case (broad definition, full premium adjustments).

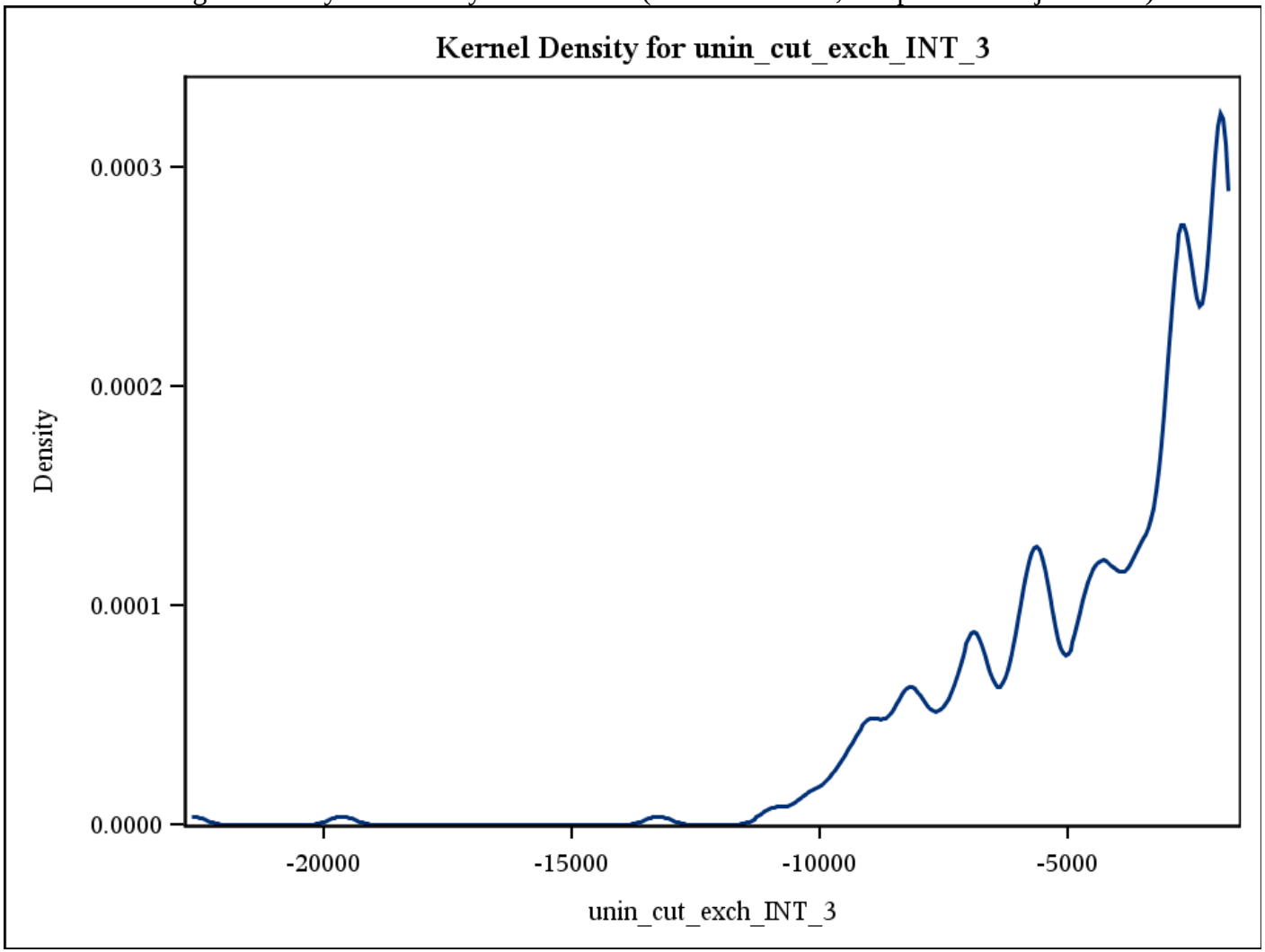

Figure 3: Different Premium Adjustments (ESI Premiums)

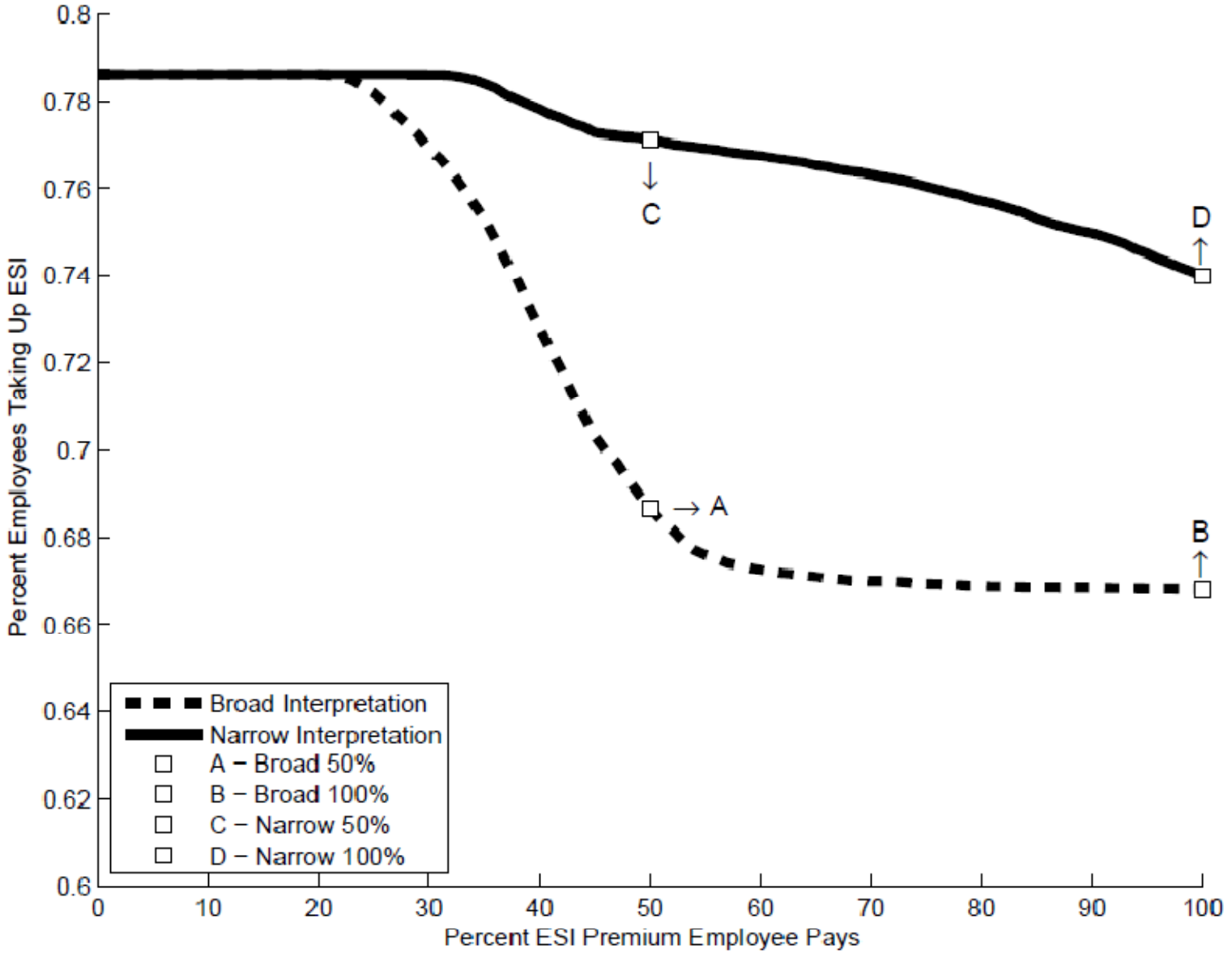

Table 6. Percent of Workers Insured, by Firm Size, Income, and Wage Categories – After Simulated Dynamic Reform Steps

		Narrow, Full Premium Adjustments			Broad, No Premium Adjustments		
		All Insured (1)	ESI (2)	Exchange (3)	All Insured (4)	ESI (5)	Exchange (6)
Weighted Percent		99.12	73.95	14.90	99.12	76.74	12.11
Number of Observations		36,666	27,575	5,181	36,666	28,420	4,336
Population Count (millions)		94,653,751	70,616,065	14,233,265	94,653,751	73,283,028	11,566,301
Row Percentages							
Firm Size	Small Firm	97.86	56.03	27.65	97.86	58.35	25.34
	Large Firm	99.72	82.56	8.78	99.72	85.58	5.75
Total (all firms)		99.12	73.95	14.90	99.12	76.74	12.11
Income-to-needs ratio	100 or less	100.00	0.00	0.00	100.00	0.00	0.00
	101-133	100.00	0.00	0.00	100.00	0.00	0.00
	133-200	100.00	33.44	58.22	100.00	50.36	41.31
	201-300	100.00	66.11	29.73	100.00	73.50	22.33
	301-400	100.00	84.08	13.48	100.00	84.79	12.78
	More than 400	98.32	91.24	5.62	98.32	91.24	5.62
Total (all incomes)		99.12	73.95	14.90	99.12	76.74	12.11
Wage category	$0-$6.24	98.14	39.93	33.37	98.14	43.08	30.21
	$6.25-$7.25	97.76	44.32	22.24	97.76	47.05	19.51
	$7.26-$13.50	98.59	58.86	21.64	98.59	64.00	16.50
	More than $13.50	99.54	85.85	9.79	99.54	87.26	8.38
Total (all wages)		99.12	73.95	14.90	99.12	76.74	12.11

Source: CPS data estimated by the authors.

Notes:

1. See Table 1 Note 1
2. See Table 6 Note 2

Table A-1. Number of Workers: Firm Size, Income and Wage Categories by Insurance Status

		All (1)	Uninsured (2)	Own Employer (3)	Dependent Employer (4)	Non-group (5)	Publicly Insured (6)
Weighted Percent		100.00	17.61	58.90	15.39	5.09	2.99
Number of Observations		36,950	6,047	21,619	6,276	1,809	1,242
Population Count		95,496,817	16,818,385	56,252,143	14,697,092	4,864,240	2,856,417
Firm Size	Small Firm	31,006,012	8,359,146	12,663,940	6,090,728	2,576,803	1,298,432
	Large Firm	64,490,805	8,459,239	43,588,202	8,606,365	2,287,436	1,557,984
Total (all firms)		95,496,817	16,818,385	56,252,143	14,697,092	4,864,240	2,856,417
Income-to-needs ratio	100 or less	4,340,427	2,427,547	760,036	105,781	213,180	829,831
	101-133	3,036,811	1,501,296	920,877	97,430	150,095	350,066
	133-200	8,786,121	3,618,571	3,497,625	509,901	460,379	655,600
	201-300	14,604,018	3,675,763	8,205,781	1,499,029	734,001	479,154
	301-400	14,482,678	2,228,727	9,049,458	2,209,096	780,170	218,567
	More than 400	50,246,763	3,366,480	33,818,366	10,275,855	2,526,414	323,198
Total (all incomes)		95,496,817	16,818,385	56,252,143	14,697,092	4,864,240	2,856,417
Wage category	$0-$6.24	2,289,247	885,871	564,704	468,659	191,741	169,176
	$6.25-$7.25	3,218,338	1,302,258	605,120	770,182	218,553	350,447
	$7.26-$13.50	33,281,578	9,682,068	13,823,305	5,960,226	1,969,456	1,787,043
	More than $13.50	56,707,654	4,948,188	41,259,013	7,498,025	2,484,489	549,750
Total (all wages)		95,496,817	16,818,385	56,252,143	14,697,092	4,864,240	2,856,417

Source: CPS data estimated by the authors.

Notes:

1. See Table 1 Note 1

Table A-2. Holtz-Eakin Simulation (Comparison with Full Compliance Scenario)

		Full Compliance			Holtz-Eakin Simulation		
		All Insured (1)	ESI (2)	Exchange (3)	All Insured (4)	ESI (5)	Exchange (6)
Weighted Percent		99.12	78.62	10.23	99.12	61.66	27.19
Number of Observations		36,666	29,282	3,474	36,666	22,261	10,495
Population Count (millions)		94,653,751	75,078,153	9,771,176	94,653,751	58,887,862	25,961,467
Row Percentages							
Firm Size	Small Firm	97.86	60.10	23.58	97.86	43.45	40.23
	Large Firm	99.72	87.52	3.81	99.72	70.42	20.91
Total (all firms)		99.12	78.62	10.23	99.12	61.66	27.19
Income-to-needs ratio	100 or less	100.00	0.00	0.00	100.00	0.00	0.00
	101-133	100.00	0.00	0.00	100.00	0.00	0.00
	133-200	100.00	63.69	27.98	100.00	13.28	78.38
	201-300	100.00	77.57	18.26	100.00	27.61	68.22
	301-400	100.00	84.99	12.58	100.00	54.65	42.92
	More than 400	98.32	91.24	5.62	98.32	91.10	5.76
Total (all incomes)		99.12	78.62	10.23	99.12	61.66	27.19
Wage category	$0-$6.24	98.14	44.24	29.06	98.14	30.42	42.88
	$6.25-$7.25	97.76	49.33	17.23	97.76	34.04	32.52
	$7.26-$13.50	98.59	66.43	14.07	98.59	43.99	36.51
	More than $13.50	99.54	88.82	6.82	99.54	74.87	20.77
Total (all wages)		99.12	78.62	10.23	99.12	61.66	27.19

Source: CPS data estimated by the authors.

Table A-3: Full compliance and Dynamic Case Definitions

Cases	Type	Definition
Full Compliance		No strategic behavior
Dynamic	Narrow definition , current premiums	Affordable coverage rule is defined as single coverage only, and employer/employee ratio of premiums cannot change.
	Broad definition, new premiums	Affordable coverage rule is defined as single or family coverage as applicable to the workers family situation and employer/employee ratio of premiums can change.
	Narrow definition, new premiums	Affordable coverage rule is defined as single coverage only, and employer/employee ratio of premiums can change.
	Broad definition, current premiums	Affordable coverage rule is defined as single or family coverage as applicable to the workers family situation and employer/employee ratio of premiums cannot change.