ACA AND THE EFFECTS ON THE LABOR MARKET

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On February 4, the Congressional Budget Office (CBO) released an economic outlook report for the next decade. Included in this report was an updated analysis of the effects of the Affordable Care Act (ACA) on labor. Most notably, this analysis contained revisions that could potentially be considerable negative effects on the labor market. Specifically, causing a decrease in approximately 2.5 million jobs. The subsequent sections of this paper will outline the provisions of the ACA that relate to the labor supply, the economic foundations of the CBO's original projections, and the theoretical factors that influenced its then revisions. Additionally, the paper will identify potential societal benefits related to the legislation that can be weighed in, while taking into consideration the labor supply effects.

The ACA was introduced in March 2010, in an effort to increase the number of individuals with health insurance coverage. The act attempted, in part, to remedy a combination of low insurance coverage for the population, as well as, the high medical costs that exposed American's to considerable financial risk. According to the Centers for Disease Control, 21.7% of people under the age of 65 had difficulties paying their medical bills in 2010[1].

The ACA includes several provisions to expand access to insurance to the overall population. These include the expansion of Medicaid to individuals at or below 138% of the Federal Poverty Level (FPL) and the creation of an online insurance marketplace where individuals not covered by Employer Sponsored Insurance (ESI) can buy insurance at group rates. In addition, individuals and families who demonstrate economic hardship or income requirements, can receive subsidies to help them purchase insurance on the exchanges. Finally, the act includes penalties to individuals who do not have health insurance, as well as businesses, of a certain size, who do not offer affordable health plans to employees. We can observe that there is a pronounced increase of health expenditures as individuals get older, secondary to the

[1] http://www.cdc.gov/media/releases/2013/p0604-medical-bills.html

depreciation rate (∂) increasing as you age. This is from the Grossman model, in which health is a capital stock, and that a person's current health depends on how much they invested (I) in health in the past, which will in return affect their future utility ($H_t = H_{t-1} - \partial H_{t-1} + I_{t-1}$.). On average, individuals in their twenties spend about $1,500 per year on health care, while older individuals spend about $4,000 per year, which then significantly increases once they become older than fifty years old. Even further, the highest expenditures are when it gets towards the end of life, where it soars to approximately $12,000 on average per year (Jung 2014).

This can cause financial burdens as people are less able to work the older that they become. Therefore, one point that can be made is that, it can be assumed that the ACA may be a good way to incentivize individuals to implement a lower-cost method of producing more units of health while they are younger, in order to benefit from this investment as they age. To further explain, looking at the formula above, if the ACA is less expensive and easier to attain for individuals when they are younger and more able to work longer hours, they can spend more money on health, making them healthier as they age. This could be due to the benefit of being more able to pay their medical bills and get medical care early on, preventing some chronic diseases, while also having the money to afford to work less as they get older, as they would have less expensive medical bills as a result of being healthier.

To add to the above point, unfortunately, rising healthcare costs have major implications for a household well-being (Jung 2004). Furthermore, for many worker's, health insurance is part of their total compensation package (ESI), along with wages and other benefits[2]. As these healthcare costs continue to grow, so have employer-sponsored health insurance premiums. Economists have generally concluded that in the past, over the long run, worker's pay for the

[2] Additional information is available on page 3-6 of Appendix C, Labor Market Effects of the Affordable Care Act: Updated Estimates

increased cost of health insurance by way of receiving lower wages, or by employer's making the health insurance plans less generous, such as higher co-pays and deductibles (Appendix C, pg. 122). As medical care (MC) costs increase and become more expensive relative to income level (I), we expand more time spent on health ($T_{H.}$) and less on happiness, thus sick time could possibly increase (T_s), decreasing overall health utility. This produces a new supply curve of the supply and demand model that is less productive with decreased health and increased cost (see Graph 1.)

In 2009, the Council of Economic Advisors, a branch of the executive office of the President, published a report outlining the economic case for health care reform. Included in this report were two sections related to the effects on unemployment and the labor supply. First, the report asserted that the cost containment elements of health care reform would act to lower unemployment. The CEA explained that "when health care costs are rising more slowly, the non-wage portion of a firms' compensation costs is [also] rising more slowly." This results in lower inflation, as the amount that a firm must "raise its prices for a given growth rate in their workers' wages is lower" (CEA 21-23). Until the slower growth of health care costs is reflected in employee expectations of wage growth, the economy is able to operate at higher levels of employment, achieving higher output.

The algebraic reasoning behind this conclusion is expressed in equation 1, where u* represents the change in unemployment rate from the normal rate of unemployment (u_{NR}). This change is determined by real wage growth (Ew) plus the difference between the growth of health care costs and the growth rate of wages (H) times the share of health care costs in overall compensation (a) minus the productivity growth (Δq).

$$u^* = u_{NR} + \frac{Ew + \alpha H - \Delta q}{\lambda}. \quad (1)$$

Within this model, as the growth rate of health care costs in relation to wages (H) decreases, the sustainable unemployment rate (u*) also falls. The CEA paper includes an example where unemployment falls by .24% as a result of just a 1.5% reduction in the growth rate of health care costs (CEA 30).

The CEA also concluded that health care reform would likely increase the labor supply. This increase, according to the CEA, would primarily be the result of reduced disability and reduced absenteeism from illness. In 2008 a population survey found that approximately 17.7 million non-elderly adults reported the present of one of more disabilities that prevented or limited their ability to work. The survey also found that approximately 3 million of these individuals were without insurance. By increasing access to health insurance, health care reform would enable eligible individuals to "maintain their health status so they are able to continue working" (CEA 35).

In addition to decreased disability, the CEA explained that health care reform will also increase the labor supply through increased productivity as a result of reductions to absenteeism due to illness. The report cites evidence that many of the indirect costs to employers that result from poor employee health are the result of chronic conditions like depression, asthma and migraines that can be effectively managed through medications. Healthcare reform, by increasing access to affordable care, would decrease the negative labor effects of these conditions. This can be modeled using Grossman's model of total health seen in equation 2.

$$\Omega = TW + T + TH + TS \quad (2)$$

Reductions in time sick (TS) increases time available for working (TW), leisure (T), or time spent producing more health (TH).

In its analysis, the CEA also acknowledges the presence of offsetting effects that would decrease the labor supply. One such effect is the ability for employees to retire earlier as a result of more affordable non-employer sponsored coverage. Another effect is the effective increase to marginal tax rates as a result of subsidies for lower income individuals to buy health insurance. However, the CEA qualifies this with the assertion that "it…seems likely that the effects of subsidized health insurance premiums on aggregate labor supply would be modest." Therefore, the CEA concludes that "the net impact of health care reform would very likely be to increase effective labor supply." (CEA 36)

In August 2013, University of Chicago Economist Casey Mulligan expanded the research of the ACA's effects on the labor market by looking more closely at the offsetting effects cited by the CEA. In contrast to the conclusions of the CEA, Mulligan found that the penalties and implicit taxes within the legislation are "historically significant", including an increase in marginal tax rates by an average of 5 percentage points and an effective doubling of payroll taxes for half of the population. (Mulligan 36)

Central to Mulligan's analysis of the ACA's effect on labor are the implicit taxes that result from the legislation. Implicit taxes refer to indirect costs that result from government policy. Two primary provisions that result in clear implicit taxes are the penalties on qualifying employers who do not offer insurance coverage and penalties on qualifying individuals who remain uninsured. Employers with more than 50 full-time employees are required to offer affordable health coverage or pay a fine of $2000 per worker per year. Mulligan explains that this results in "each full-time employee's presence on [a payroll] creates a marginal cost of

employment" and that "the employer would owe less penalty if the employee were working part-time or not employed at all" (Mulligan 5). This is similar to the economic effects of current government policies like unemployment benefits and payroll taxes.

The ACA includes a similar penalty on individuals who have access to affordable health care coverage but fail to participate. Individuals qualifying for a hardship exception are exempt from the penalty. This hardship exemption also "acts as an implicit tax on working, to the extent that not working allows a person to be classified as experiencing hardship." These implicit taxes both act to lower labor supplied. For employers, the added implicit taxes increase the cost of labor which decreases the amount of labor supplied. For employees, the hardship exemption decreases the cost of not working and will incentivize some employees to leave the labor force.

Perhaps more important to the effects on labor supply are the legislations' subsidy payments for qualifying individuals to purchase health insurance on the state and federal exchanges. An important characteristic of these subsidies is that they are only available to employed individuals if the individual's employer does not offer affordable coverage. Within many organizations, health insurance benefits are limited to full-time employees. In these situations, the subsidy payments create an implicit tax on full-time work, because the individual would qualify for subsidy payments if they worked part-time. In addition, because the subsidy is based on income (getting larger as income decreases) it also creates an implicit tax on those who could get larger subsidy payments by generating less income.

In Figure 1 of his paper (Appendix 1), Mulligan graphs the health payments that result from the subsidies as a function of household income and policy type. This displays visually the decrease in financial responsibility that occurs as a result of lower income and increased subsidies. The result of these subsidies is a strong incentive for what Mulligan terms "Jumping

onto the Scale" and "Sliding down the Scale" (Mulligan 8). Employees working full-time for less than 400% of the FPL have a strong incentive to switch to part-time work because they would be able to "jump", from paying 100% of health care costs (in the form of premiums and out of pocket costs), onto the subsidy scale at some point less than 100%. A similar incentive exists for individuals already receiving subsidies, to work less and earn less income. In that case, the individual would slide down the scale and receive the same level of health insurance coverage for a lower price. This incentive is strongest at income levels near the "cliffs" where subsidy rates change drastically.

In both cases, the decisions of the individual to shift to part-time work or reduce hours not only result in lower health care costs, but also result in decreased wages. However, because an individual's income is a combination of health care benefits and wage, moving onto and down the scale does not necessarily result in lower overall income. Referring to equation 3, it models an individual's disposable income, $c_{i,}$ as a net of wage income, taxes (T), health care subsidies (as a function of total income) $H_i(y_i)$, and employer sponsored insurance payments (ESI_i).

$$\begin{aligned} y_i &= n_i h_i w + (1-n_i) r_i w + a_i \\ c_i &= x_i n_i h_i w + (1-ESI_i n_i) H_i(y_i) - (1-ESI_i) U_i(a_i + n_i h_i w) - T_i \end{aligned} \quad (3)$$

Within this model, a person's disposable income is the result of wage rate (w), the portion of the year worked (n_i), weekly hours worked (h_i), and $x_i w$, which refers to the employer cost or total compensation including fringes. Added to the first term is employer sponsored insurance coverage and health insurance subsidies dependent on the individual's employment and insurance status. Subtracted from these first two terms are employee share of employer sponsored cover ($1-ESI_i$) and $U_{i,}$ which relates to uncompensated care foregone due to coverage available under the ACA. The model shows how subsidies can effectively take the place of

employer sponsored coverage and result in similar disposable income despite working fewer hours.

Mulligan offers one such example in Table 3 of his paper (Appendix 2). The first column outlines an employee working full time who receives a total compensation, wage and health benefits, of $52,000 annually. After subtracting payroll taxes, the employer and employee health insurance portions of health care costs, and individual out of pocket health care expenses, the total disposable yearly income for the individual is $35,021. This is contrasted with column two, an individual who works part-time for an annual total compensation of $37,700. Unlike the first scenario, the part-time employee is not offered ESI and is therefore eligible for a subsidized plan on the health insurance exchange. The result is considerably less health care related expenses subtracted from the individual's total compensation, and a large portion of the health care costs being paid by the federal government through the ACA. Coincidentally, the total income is identical for the two individuals despite one considerably more hours.

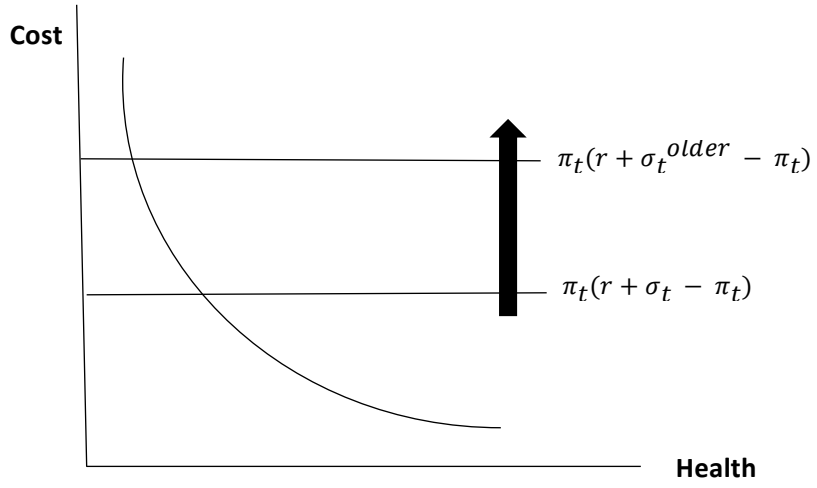
Originally, the ACA was predicted to increase labor in the long run while a decrease was expected initially. This was primarily due to individuals willingly working less hours due to the subsidy incentives that are based on wages earned, taxes and other compensations on health care described above. This small initial decline in employment is based on the estimate that fewer people will receive subsidies early on, expected unemployment is estimated to be higher than in later years, and the ACA will stimulate greater demand in health care services where lower income households can redirect the excess income towards goods and services which will stimulate the economy. The largest impact of the ACA on labor is expected to occur after 2016, at which time all the major provisions of the Act are expected to be in effect. The CBO estimates that the total number of hours worked will be reduced by 1.5 to 2.0% from 2017 to

2024, with the largest reduction from the low wage-earners category of the labor force (Appendix C, pg. 117). The CBO does in fact recognize that the total compensation and employment will be less in the coming decades with the ACA than without it. From the employer's perspective, this Act will reduce ESI by 4% in the coming decades, which will propel the reduction of benefits (Appendix C, pg. 120).

The ACA's influence on Medicaid has the same effect on the labor supply as stated above. The increased Medicaid benefits, as a part of the ACA benefits package, will further incentivize individuals to work less or to exit from the labor force while maintaining the same quality of life prior due to the ACA benefits. For the purpose of being succinct we will treat the increase in Medicaid benefits as a part of the broader concept of the effects of the ACA on labor.

It is important to note that all of these projections are only estimates because provisions of the ACA have never been used before on such a large scale. Concrete figures are unattainable and thus rough estimates must be used by the CBO. However, as alluded to by the Wall Street Journal article, Mr. Mulligan's research seems to present more accurate figures, in which the CBO hinted influenced their revised estimates in *Appendix C, Labor Market Effects of the Affordable Care Act: Updated Estimates* (Rago, 2014).

Graph 1



Appendix 1

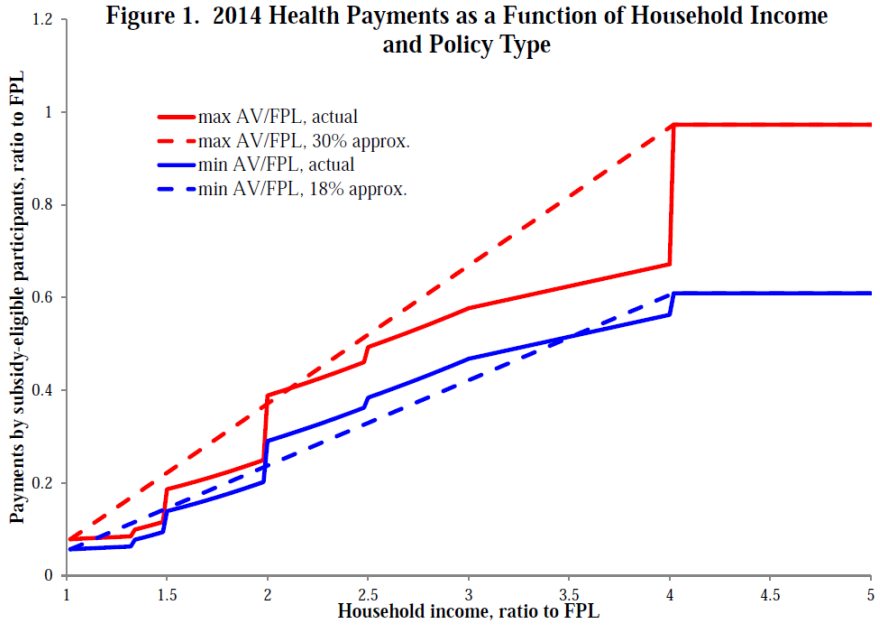


Figure 1. 2014 Health Payments as a Function of Household Income and Policy Type
max AV/FPL, actual
max AV/FPL, 30% approx.
min AV/FPL, actual
min AV/FPL, 18% approx.
Payments by subsidy-eligible participants, ratio to FPL
1.2
1
0.8
0.6
0.4
0.2
0
1
1.5
2
2.5
3
3.5
4
4.5
5
Household income, ratio to FPL

Appendix 2

Table 3. The ACA's Implicit Tax on Full-time Work: An Example
beginning in 2014, for employers offering health insurance to full-time employees.
All dollar amounts are annualized unless noted otherwise.
Subsidies are calculated for a family of four with one earner.

	full-time position	part-time position	
Health insurance source	ESI	ACA exchange	
Employee costs			
weekly hours worked	40	29	(1)
weekly work expense	$ 100	$ 75	(2)
Employer costs			
hourly basis	26	26	(3)
annual	52,000	37,700	(4) = 50*(3)*(1)
employer payroll taxes	2,679	2,679	(5) = 50*[(4)-(6)-(7)]*0.0765/1.0765
Health insurance premiums			
employer	11,154	0	(6) = 78% of total premium (ESI only)
employee, excluded from tax base	3,146	0	(7) = 22% of total premium (ESI only)
employee, included in tax base	0	1,304	(8) = 3.7% of (12)
ACA	0	10,806	(9) = 70% of total health expenses - (8)
out-of-pocket health expenses			
employee	3,000	1,038	(10) = 17% (6%) of total ESI (exch.) expenses
ACA	0	4,152	(11) = (3/7)*[(8)+(9)]-(10)
Employee income subject to tax			
total	35,021	35,021	(12) = (4) - (5) - (6) - (7)
ratio to FPL	1.45	1.45	(13) = (12)/24100
after health & work expenses, annual	27,021	28,929	(14) = (12) - (8) - (10) - 50*(2)

Notes: Both types of employees work 50 weeks per year. The ACA exchange plan is assumed to be a silver plan (70% actuarial value).

References

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