

Universal Child Allowance and the Female Labor Force

I. Introduction

President Donald Trump made a somewhat surprising comment during an address to a Joint Session of Congress in February, declaring, “My administration wants to work with members in both parties to make childcare accessible and affordable” (The White House Office of the Press Secretary 2017). A few days later the *New York Times* quipped, “that rhetoric makes Mr. Trump sound more like Hillary Clinton than Ronald Reagan” (Goldstein 2017). The president is certainly one of very few Republicans voicing support for child-care funding proposals these days, though policymakers from both parties have emphasized the importance of quality early childhood care. “Child care is quickly becoming unaffordable for the families who need it,” however, and federal and state governments have very different ideas about how to support working parents and their young children as childcare costs continue to rise (Hamm, Madowitz, and Rowell 2016).

II. Policy Proposal – Universal Child Allowance

Among proposals to improve access to affordable childcare is the universal child allowance. In November 2016, the Urban Institute released a proposal to “convert the Child Tax Credit and child tax exemption into a universal monthly child allowance” of \$250-\$300 per month per child (Urban Institute 2016). Proponents of child care subsidies like this one believe that, aside from improving access to early cognitive development for low- and middle-income children, they will allow mothers to pursue employment that would not otherwise be an option (Gennetian et. al 2002). This paper will examine, using elasticity estimates and supply shift

calculations, to what extent this proposed monthly child allowance subsidy would increase the quantity of working mothers in the labor force, and how this supply shift might affect wages.

III. Calculations

The following calculations seek to answer two questions using various cross-price elasticity estimates: (1) *How responsive is the supply of working mothers to a price change in childcare costs?* and (2) *How responsive is the price of wages to this increase in labor supply?*

The first question will be answered using the following cross-price elasticity equation, where E_{EC} = cross-price elasticity of supply for employed mothers (E) subject to a change in the price of childcare (C).

$$E_{EC} = \frac{\% \Delta Q_E}{\% \Delta P_C} = \frac{\% \Delta Q_E}{\frac{P_n - P_o}{P_o}}$$

The unknown value in the above equation is $\% \Delta Q_E$, or the percent change in quantity of employed mothers associated with a given cross-price elasticity and price change of a relative good or service (childcare, in this case). Calculations rely on the following childcare and labor data:

- The average monthly cost of full-time day care – without a child allowance – is approximately \$842.80 (Whitehurst 2017). [See P_o in Table 1]
- The Urban Institute’s proposed \$300 monthly child care allowance would change the monthly cost of full-time day care to \$542.80. [See P_n in Table 1]
- In 2016, there were approximately 7 million women with children under six years old working full-time in the United States (Bureau of Labor Statistics, 2017, 11). [See Q_o in Table 1]

David Blau and Janet Currie provide a table outlining 20 studies estimating the cross-price elasticity of “the effect of the price of child care on employment of mothers” (Blau and Currie 2006). The following calculations reflect both a lower- and higher-end estimate from Blau and Currie’s summary – -0.15 and -1.22, respectively. The authors have several theories about why

the estimates range so substantially. They ultimately conclude, “specification and estimation issues most likely play an important role in producing variation in the estimates” (Blau and Currie 2006). Nevertheless, -0.15 and -1.22 paint very different pictures of how mothers might respond to a price change in childcare – the first estimate (< 1) suggests they seek full-time work *inelastically* in relation to childcare costs, while the second (> 1) indicates mothers pursue work *elastically* as child care costs change.

Table 1 summarizes the calculation results. Using Blau and Currie’s lower-end elasticity estimate (-.15), approximately 3,500 mothers would enter the workforce as a result of the Universal Child Allowance. On the other hand, the higher-end elasticity estimate (-1.22) indicates that 30,100 mothers would start working full-time if the Universal Child Allowance were implemented. Unsurprisingly, relying on an inelastic estimate of labor response to childcare costs yields a very minimal change – 3,500 additional female workers. The higher-end elasticity estimate suggests the employed mother workforce would increase by 30,100 – a greater change, to be sure, but still rather miniscule when compared to the larger population of working mothers. The monthly childhood allowance would only change the labor force of employed mothers by .43 percent, even with a -1.22 cross-price elasticity estimate.

Say this higher-end elasticity estimate does reflect how mothers would react to a change in childcare prices; policymakers must now consider the second question posed at the beginning of this section: *How responsive is the price of wages to an increase in labor supply?* This question will be answered using the following elasticity equation, where E_D = elasticity of demand for labor.

$$E_D = \frac{\% \Delta Q}{\% \Delta P} = \frac{Q_n - Q_o}{Q_o} \div \frac{\Delta P}{P_o}$$

Demand elasticity estimates were gathered from a summary of historical elasticities compiled by Abhradeep Maiti and Debarshi Indra. The authors write, “Lichter et al. (2014) report a mean value of -0.50 for overall labor demand elasticity” (Maiti and Indra 2016, 636). The following calculations will rely on that estimate for simplicity, though it is worth noting that economists have estimated labor elasticities as low as -.005 and as high as -0.70 depending on time horizon, industry, dataset, workforce, and geographic location (Maiti and Indra 2016, 636).

Now it is possible to discover how sensitive wages would be to a change in labor supply spurred by the proposed Universal Child Allowance policy. Calculations will reflect the Q_n (7,030,100) determined by the higher-end -1.22 cross-price elasticity estimate. The average female wage without the policy (P_o) is \$36,900 a year (Bureau of Labor Statistics 2014).

Table 2 summarizes the results of this calculation. Using Lichter et al.’s 0.50 E_D estimate, the supply shift caused by the Universal Child Allowance would result in a .86 percent decrease in wages for working women – in other words, female wages would shift from \$36,900 a year to \$36,582.66. Figure 1 illustrates the behavior of the supply and demand curves in this scenario.

IV. Conclusion

The primary goals of the Urban Institute’s proposed Universal Child Allowance policy are “to reduce child poverty and income instability, improve child development, and eliminate extreme poverty among US families with children” – in 2016, the organization claimed the allowance “could reduce the child poverty rate by over 40 percent” (Urban Institute 2016). This paper says little of the policy’s ability to directly meet these child poverty goals; rather, we set out to examine the extent to which a monthly childcare allowance would affect the quantity of mothers working full-time jobs, and how that change might affect women’s wages. “Child care assistance policies generally aim to encourage employment” after all, so policymakers should

pay attention to the degree to which allowance programs would factor into beneficiaries' employment decisions (Gennetian et. al 2002, 3).

As it turns out, even assuming an elastic response to a change in childcare costs, the number of employed mothers would change by a mere 0.43 percent as a result of this policy. Furthermore, this change in quantity would be met by a 0.84 percent drop in women's wages.

The Universal Child Allowance would be a major shift in federal policy. Brookings Institution Senior Fellow Russ Whitehurst thinks the approach would "have had a brighter future if Hillary Clinton had won the election" (Whitehurst 2017). Politics aside, the calculations performed in this paper indicate the effect of this policy on mothers' entry into the workforce would be somewhat minimal.

References

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Appendix

TABLE 1. Cross-Price Elasticity Calculations

Equation	Variable	Definition	Estimate #1	Estimate #2
$E_{EC} = \frac{\% \Delta Q_E}{\% \Delta P_C} = \frac{\% \Delta Q_E}{\frac{P_n - P_o}{P_o}}$	E_{EC}	Elasticity of supply for employed mothers (E) subject to a change in the price of childcare (C)	-0.15	-1.22
	P_o	Original price of childcare (C) (without policy)	\$842.80	\$842.80
	P_n	New price of childcare (C) (with policy)	\$542.80	\$542.80
	$\% \Delta Q_E$	Percent change in quantity of employed mothers (E)	0.05%	0.43%
$\Delta Q = Q_o * \% \Delta Q_E$	Q_o	Original quantity of employed mothers (without policy)	7 million	7 million
	ΔQ	Number of additional employed mothers as a result of the policy	3,500	30,100
$Q_n = Q_o + \Delta Q$	Q_n	New quantity of employed mothers (with policy)	7,003,500	7,030,100

TABLE 2. Demand Elasticity Calculations

Equation	Variable	Definition	Estimate
$E_D = \frac{\% \Delta Q}{\% \Delta P} = \frac{Q_n - Q_o}{Q_o} \div \% \Delta P$	E_D	Elasticity of demand for labor	-0.50
	Q_o	Original quantity of employed mothers (without policy)	7 million
	Q_n	New quantity of employed mothers (with policy)	7,030,100
	$\% \Delta P$	Percent change in wages of labor force	0.86%
$\Delta P = P_o * \% \Delta P$	P_o	Original wage for female labor force.	\$36,900
	ΔP	Wage change as a result of the policy	-\$317.34
$P_n = P_o + \Delta P$	P_n	New wage (with policy)	\$36,582.66

FIGURE 1. Labor Market: Working Mothers

-1.22 Cross-Price Elasticity Estimate

-0.50 Demand Elasticity Estimate

