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Article

Income and the mental health of Canadian mothers: Evidence from the Universal Child Care Benefit



Angela Daley

School of Economics, University of Maine, 5782 Winslow Hall, Orono, ME 04469, United States

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ABSTRACT

The Universal Child Care Benefit, introduced in 2006, was an income transfer for Canadian families with young children. I exploit this exogenous increase in income to answer the following questions: (1) Is there a relationship between income and mental health among Canadian mothers? (2) Is it corroborated by other measures of wellbeing (i.e. stress, life satisfaction)? (3) Is the effect different for lone mothers compared to those in two-parent families? I answer these questions using a difference-in-differences model and microdata from the Canadian Community Health Survey, 2003 to 2008. The estimating sample includes 26,886 mothers, 6273 of whom are lone parents.

I find the income transfer improved mental health and life satisfaction regardless of family structure, albeit not necessarily for a given individual. Rather, average scores were higher for mothers with young children after implementation of the Universal Child Care Benefit. For example, they were more likely to report 'excellent' mental health and less likely to be in each of the other categories. The transfer also reduced stress among lone mothers with young children. Specifically, they were less likely to be 'quite a bit' or 'extremely' stressed on a daily basis, and more likely to be 'not at all' or 'not very' stressed. I argue that assumptions of the model are plausible and show that results are consistent across several robustness checks.

1. Introduction

The Universal Child Care Benefit (UCCB), introduced in 2006, was an income transfer for Canadian families with young children. ¹ I use this policy change to estimate the relationship between income and maternal well-being, which is otherwise endogenous. I focus on mental health, in addition to stress and life satisfaction. Moreover, I make the important distinction between lone and married mothers because they face different constraints on time and financial resources.

1.1. Income and health

There is a well-established literature on the relationship between income and health among adults. Conceptually, health status can be defined by a production function. Income reflects access to inputs including those related to lifestyle, environment and medical care (Folland, Goodman, & Stano, 2009). Likewise, Grossman (1972) postulates a model in which individuals are endowed with a depreciating health stock. It can be improved by engaging in health production or purchasing medical care. Individuals implicitly choose the duration of their lifespan through such investments, which are facilitated by socio-

economic status.

Empirically, the relationship between income and health is endogenous due to reverse causation and omitted variables. For example, poor health may impede labour productivity and thus income, while individuals with low socio-economic status may have limited access to health-enabling resources (e.g. medical care, nutritious food). Likewise underlying factors, such as family background and time preference, may influence both income and health.

To address endogeneity, Ettner (1996) uses instrumental variables including the unemployment rate and parental education. She finds that income has a positive effect on self-assessed health and depression. However, instruments may affect well-being in ways that are unrelated to income (e.g. refer to Ruhm (2008) for a review of the literature on macroeconomic conditions and health).

Other studies exploit shocks to wealth via lottery winnings and inheritances. For example, Gardner and Oswald (2007) estimate the effect of lottery winnings on mental health in the United Kingdom. They find a positive relationship that is lagged by two years. Moreover, Meer, Miller, and Rosen (2003) find a small, positive relationship between income and self-assessed health using inheritances, which may be correlated with unobserved factors that affect well-being. For example,

E-mail address: angela.daley@maine.edu.

¹ It was replaced by a new child benefit program in July 2016.

an affluent family background may be associated with better health and receipt of a bequest.

Another approach, which is the basis for this study, is to use policy reform to attain exogenous variation in income. For instance, Case (2004) finds that a large, unanticipated increase in old age pension for Black and Coloured South Africans protects the health of recipients and other household members. However, it is unclear whether this finding is generalizable to younger adults in more developed countries. Similarly, Frijters, Haisken-DeNew, and Shields (2005) use an exogenous increase in income for East Germans after re-unification. They find a small, positive relationship between income and health, while Frijters, Haisken-DeNew, and Shields (2004) find large improvements in life satisfaction using the same methodology.

Also related to policy reform, there is some evidence that child-related transfers improve maternal well-being. For example, Milligan and Stabile (2011) exploit variation in the Canada Child Tax Benefit and National Child Benefit Supplement across provinces, time and number of children. They find that higher child benefits reduce maternal depression. Likewise, Evans and Garthwaite (2014) consider the effect of an expanded Earned Income Tax Credit in the United States; families with two or more children were given a much larger refundable tax credit than those with one child. They find a significant reduction in the number of bad mental health days, as well as a higher probability of very good/excellent health among mothers without post-secondary education.

Finally, while not directly related to health, Schirle (2015) examines the effect of the UCCB on labour supply. She finds that married mothers used it to purchase time away from the labour market. Koebel and Schirle (2016) find comparable results for married mothers, while those who were separated or divorced increased their labour supply on the extensive margin. Moreover, they find no effect among those who were common law or never married. In this paper, I use a comparable identification strategy, based on the UCCB, to estimate the relationship between income and maternal well-being.

1.2. Universal Child Care Benefit

The UCCB is a plausibly exogenous increase in income for Canadian mothers with young children. Introduced in 2006, the UCCB paid \$100 per month, or \$1200 annually, for each child under the age of six. This was a sizeable transfer, especially for those at the bottom of the income distribution. Moreover income-tested benefits, such as the Canada Child Tax Benefit and social assistance, were not affected by the UCCB.

The UCCB was taxed progressively. Moreover, net benefits varied by family type for a given level of income because, for tax purposes, the UCCB was claimed by lone parents or lower-earning spouses. For example, Battle (2008) calculates net benefits for Manitoba families at various income levels. At \$10,000 (i.e. below the taxpaying threshold), all families received the full amount of the UCCB. At \$20,000, two-parent families kept the full amount, while lone parents received only \$1057 per year. At higher income levels, net benefits were smaller for lone parents and dual-earner families compared to those with one earner.

Families that received the Canada Child Tax Benefit were automatically enrolled in the UCCB, otherwise parents applied to the Canada Revenue Agency. They received benefits within 80 calendar days and were entitled to retroactive payments for up to 11 months. The Treasury Board of Canada Secretariat (2009) reports that 99 percent of eligible families received the UCCB. In two-parent families, the UCCB was paid to mothers by default or to fathers with written consent.

For lone parents, benefits were paid to the primary care giver. Those with shared custody could split the UCCB as of July 2011.

1.3. Maternal well-being

Kooreman (2000) finds that parents treat child benefits differently than other income sources. He concludes they experience a 'moral obligation' to spend a relatively large share on child-related goods. In contrast, Blow, Walker, and Zhu (2012) find that an unanticipated increase in child benefits leads parents to spend more on themselves. In short, child-related transfers affect parental well-being by facilitating their own needs and/or those of their children. This may be particularly true for mothers as they tend to manage household spending on goods that benefit children, such as food and clothing (Woolley, 2004). Similarly, Lundberg, Pollak, and Wales (1997) find that, in the United Kingdom, paying benefits to mothers is associated with much higher spending on clothing for women and children. In contrast, Bradbury (2004) exploits a change in how income support payments are distributed within married couples in Australia. He finds a negligible effect on expenditure patterns and not in the expected direction. For example, an increase in the income share of women is associated with higher tobacco consumption. He concludes that transfers "with specifically advertised objectives and paid to particular individuals may be more effective in influencing consumption patterns than large-scale changes to the within-household distribution of income" (page 533). In the context of this paper, mothers receive the UCCB by default and are generally responsible for child rearing. For example, women dedicate more time to household production, especially in the presence of children (Marshall, 2006). They also use time more intensively. Offer and Schneider (2011) find that, relative to fathers, mothers multitask ten more hours per week with the additional time spent on housework and child care. For these reasons, I focus on mothers rather than fathers.

I also distinguish between lone and married mothers because they face very different constraints on time and financial resources. For example, married mothers tend to have higher household income and more flexibility in allocating non-market time to household production and leisure. Indeed, Burton and Phipps (2007) find that lone mothers are particularly vulnerable to time shortages and low income, not to mention economic insecurity.

By expanding the budget set, a positive income shock facilitates the purchase of necessities and other health-enabling resources. It also provides protection against potential economic losses. So, how does it affect maternal well-being? Specifically:

- (1) Is there a relationship between income and mental health among Canadian mothers?
- (2) Is it corroborated by other measures of well-being (i.e. stress, life satisfaction)?
- (3) Is the effect different for lone mothers compared to those in twoparent families?

It is important to address these issues in a Canadian context because past studies pertain to the United States, and thus a different policy environment (e.g. Evans & Garthwaite, 2014). Moreover, Milligan and Stabile (2011) emphasize Canadian children with cursory attention to mothers. That is, they do not include corroborating measures of maternal well-being, nor do they distinguish between lone and married mothers.

In this paper, I answer the preceding questions using a difference-indifferences (DD) model. The UCCB is appropriate for this purpose because it was paid to mothers by default and represents an exogenous increase in income for those with young children.

² However, I argue the UCCB was too small to induce changes in fertility. Refer to

³ As of July 2011, lone parents could include it in: (1) their own income; (2) the income of a dependant for whom an Eligible Dependant Credit was claimed; or (3) the income of a child for whom the UCCB was paid.

⁴ Another reason to focus on mothers rather than fathers is that lone-parent families are more likely to be headed the former (Statistics Canada, 2015).

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