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Public Income Transfers and Wealth Accumulation at the Bottom: Within and Between Country Differences in Canada and the United States

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Public income transfers and wealth accumulation at the bottom: Within and between country differences in Canada and the United States

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ABSTRACT

Both Canada and the United States are considered liberal welfare states, yet exhibit notable differences in income poverty attributed to social policy. While a more generous welfare system lifts many above income poverty, models of household financial behavior suggest that more income from the state should displace private savings via a substitution effect. Using nationally representative wealth surveys from Canada and the US from 1998/1999 to 2016 we extend knowledge on the relationship between the welfare state and private wealth accumulation. Specifically, we study household asset poverty defined as financial asset levels that fall below three-month adjusted income poverty threshold. Asset poverty rates varied over time in the two countries and were higher in the less generous US welfare state. Further, income transfer share was positively related to asset poverty in Canada but not in the US. Counterfactual estimates offered evidence of the substitution effect in Canada, where higher levels of transfers may crowd out private asset accumulation. Results invite further consideration of the concept of asset poverty and its relationship to welfare state characteristics.

Keywords: welfare state, poverty, wealth, cross-national, asset poverty

1. INTRODUCTION

Cross-national research on trends in poverty and inequality have primarily concentrated on the distribution of income. Much of the focus has been on the causes (Osberg & Organisation for Economic Co-operation and Development, 2014; Piketty & Saez, 2013) and consequences of the sharp increase in the concentration of growth among top income earners (Atems, 2013; Brzezinski, 2019; Hacker, 2008; Pierson, 1995). Greater income inequality has been associated with less generous social protection policies (Scruggs & Hayes, 2017) while a more generous welfare state was associated with a decrease in income poverty and material deprivation (Brady & Bostic, 2015; Nelson, 2012; Saltkjel & Malmberg-Heimonen, 2017). Importantly, these studies only considered one form of household financial resources – income.

In the social policy and related literature, there have been relatively fewer studies of cross-national differences in household wealth (Giordono et al., 2019). The extant literature has found that wealth and income are far from perfectly correlated and that wealth inequality is more pronounced than income inequality (Balestra & Tonkin, 2018; Cowell et al., 2018; Killewald et al., 2017; Saez, 2017). Cross-national work on wealth distributions has frequently focused on dynamics in the very upper tails and how these are driving wealth inequality (Piketty & Zucman, 2014; Saez & Zucman, 2016). Observed differences in the distributions of household wealth have not been fully explained by either demographic or economic characteristics, but were instead attributed to unexplained country effects (Cowell et al., 2018). In the current paper, we investigate the extent to which comparable public income transfers in Canada and the United States relates to financial asset poverty. By analyzing within- and between-country differences we advance understanding of social policy in two liberal North American countries.

We examine cross-country differences in social policy by considering changes over time to the wealth of the poorest half of households, who are *a- priori* more vulnerable to external shocks from the market. While both countries are considered liberal welfare states, the policy mixes of the two countries reflect important differences (Deeming, 2017; Mahon, 2008; Myles, 1998; Olsen, 2007, 2008). Studies have documented a decline in universality in some, though not all, areas of Canadian social policy (Béland et al., 2014, 2019). In contrast, the United States has always relied on targeted social policy, offering no or very limited real social protections on the basis of citizenship alone (Béland & Waddan, 2017; Garfinkel et al., 2010).

Cross-national policy differences are reflected in social spending patterns. In Canada, aggregate spending on assistance to families is twice as high as in the US and most spending takes the form of cash benefits, while the US relies heavily on in-kind benefits (Organisation for Economic Co-operation and Development, n.d.) (see Table A1 of the Data Appendix.). However, both countries remain fundamentally liberal welfare states, with common historical origins and legal frameworks, and strong economic and political ties, even though many scholars take the view that Canada and the United States represent different variants of the liberal welfare state (Bruch et al., 2018; Mahon, 2008). These observations suggest that the two countries may serve as appropriate comparison cases, as found in studies of labor market outcomes (Card & Freeman, 1993; Card & Oreopoulos, 2019) and social policy (McCabe, 2018; Rothwell & McEwen, 2017).

2. WELFARE STATES AND HOUSEHOLD SAVINGS

At least two propositions emerge from the literature on how public income transfers may shape the propensity to save. Both assume a substitution effect in which larger state transfers displaces the insurance role and discourage household saving. In countries with high levels of welfare generosity with higher average receipt of public income, we might expect to see lower

levels of overall private savings (Engen & Gruber, 2001; Gruber & Yelowitz, 1999). The potential for displacement of private savings by state generosity is also supported by cross-national research showing the that intergenerational transfers are weaker in more generous welfare states (Albertini et al., 2007). Cross-national literature showing that public pension (social security) displaces private savings adds additional evidence to support this proposition (Feldstein, 1979; Hurd et al., 2012).[1] The substitution model also suggests that in absence of public income transfers household would save and accumulate wealth to self-insure against market risk (Carroll & Samwick, 1997; Friedman, 1957; Modigliani, 1986). Some studies show that in the context of welfare state scarcity, households have more private savings. For example, Brandolini, Magri and Smeeding (2010) attribute lower asset poverty in Italy to its lower relative levels of welfare generosity compared to other European countries.

Conversely, means-testing eligibility, and asset limits in particular, complicate predicted substitution effects for low to moderate income households. Income transfer programs such as Temporary Aid for Needy Families (TANF) and Supplemental Nutrition Assistance Program (SNAP, food stamps) require participants to demonstrate income and assets below determined thresholds where other social insurance programs such as unemployment and workers compensation do not. Asset limits, embedded in social welfare policies of both countries, may reduce household saving, or even promote dis-saving to remain near or at the cut-off for eligibility (Hamilton et al., 2019; Stapleton, 2009). Ziliak (2003) found that asset-tested transfer income was the key driver in the ratio of wealth to income ratios between rich and poor. Several other studies have documented a negative effect on household savings from asset-limits in

[1] Although welfare and public pensions are expected to function differently as the full population will expectedly rely on the public pensions whereas only a portion will access income support/welfare.

American welfare programs (Duflo et al., 2006; O'Brien, 2008; Ratcliffe et al., 2016), although the expected increase in household savings was not universal when asset-limits were relaxed (Hurst & Ziliak, 2006).

3. POVERTY AND HOUSEHOLD ASSETS

Income poverty is a key indicator of household well-being. Canada and the United States experience similar levels of relative income poverty before taking tax and transfers into account, but the Canadian welfare state reduces income poverty by 50% more than the reduction seen in the US (see Data Appendix Table A1). The stronger reliance in the US on targeted social policy has been linked to lower levels of social mobility and greater income poverty, as compared to Canada (Connolly et al., 2019; Shaefer et al., 2018).

However, income does not represent the full picture of a household's financial resources, and the correlation between household income and household wealth is far from perfect (Jäntti et al., 2013; Killewald et al., 2017). Assets are also key indicators of household financial (in)security and even multidimensional poverty, alongside income measures (Brandolini et al., 2010; Carter & Barrett, 2006; Leonard & Di, 2014). In contrast to flows of income, assets are stocks of capital that can be accumulated and drawn down.

The definition and choice of assets matters. Assets are categorized as financial or non-financial assets. Financial assets are cash deposits in financial institutions, and investments in stocks, bonds and mutual funds. Non-financial assets include wealth stocks that are not liquid, including real-estate, vehicles, rental properties, and equipment. Net worth accounts for total assets minus debts. Each type of asset provides different functions. We focus this study on financial assets for several reasons. Considering their liquid nature, financial assets allow households to self-insure against future risks of income interruptions or to handle larger lump

sum expenses that cannot be afforded out of income flows alone. Financial assets, or savings, can serve as another indicator of a household's ability to meet their current and future consumption needs. We note that other frameworks for operationalizing assets exist. E.g., net worth or total assets may be more appropriate for social development and explaining social stratification (see Nam et al. (2008) for a review of frameworks). Further, eligibility guidelines for many social assistance programs in Canada and the US require applicants to demonstrate levels of financial assets (non-financial assets exempt in Canada and many US states).

3.1 Asset poverty

To define a minimally acceptable level of financial assets, we follow Haveman and Wolff (2004) to assess whether a household has sufficient assets, that if fully spent, would allow them to maintain at an income poverty level for a definite period of time. Households who fall below this threshold are considered asset poor. Applying financial assets at the relative poverty line for three months, 37.5% of US households were asset poor in 2001 (Haveman & Wolff, 2005). A growing number of descriptive studies have examined asset poverty, using similar measures, including studies of Spain and the United Kingdom (Azpitarte, 2011), Spain and the United States (Azpitarte, 2012), South Korea (Kim & Kim, 2013), Germany and Belgium (Kuypers & Marx, 2018), and Canada (Blumenthal & Rothwell, 2018; Rothwell & Robson, 2018). These studies found that rates of financial asset poverty among the full population are consistently and considerably higher than income poverty. We have identified only one study of asset poverty in Canada and the United States, which also included several European countries. Brandolini, Magri and Smeeding (2010) reported higher rates of financial asset poverty in Canada (56.5%) compared to the US (estimates ranged between 44.6% and 52.6% in 2001), but did little to consider the role that welfare state policy plays in driving these cross-national differences.

In the current study, we examine the bottom half of the income distribution to see how rates of asset poverty have changed within and between Canada and the US over time, and consider the extent to which cross-national differences in wealth accumulation among low-to-moderate income (LMI) households can be attributed to differences in the distribution of public income receipt. By systematically comparing the two countries we highlight how differences in transfer share of public income may influence the financial security of low and moderate income families.

4. METHOD

4.1 Sample

The study is a cross-national comparative study insofar as we observe social phenomena across countries and aim to create explanations for the similarities and differences (Andreß et al., 2019). Importantly, we are primarily interested in how variation in welfare generosity shapes wealth accumulation at the household level among LMI families.

We relied on multiple waves of nationally-representative surveys from Canada and the US accessed via the Luxembourg Wealth Study (LWS). Agencies who oversee the household wealth surveys in the two countries, Statistics Canada and the Federal Reserve Board of the United States, cooperate with LWS by submitting their data and agreeing to LWS' terms of user access. LWS has compiled the original survey data from various countries and harmonized the variables to allow for cross-national comparison (*Luxembourg Wealth Study (LWS) Database*, n.d.). We focused our study on data from Canada's Survey of Financial Security (SFS), administered in 1999, 2005, 2012 and 2016, and comparable data from the 1998, 2004, 2013 and 2016 waves of the American Survey of Consumer Finances (SCF). Data were accessed via the

LWS remote access interface (LISSY).[2] All survey waves were pooled into a single analytical dataset and the sample was restricted to households with below median market family income and headed by a working-age adult (aged 25 to 54 years). Restricting the sample to working-age households reduced age-related variation in factors such as education and labor market status that might otherwise confound our key variables of interest. We defined the LMI population for this study as households with market income in the bottom five market income deciles. This sample restriction by age and relative income was purposeful to minimize the influence of retirement savings and the role of public pensions. Of note, the US SCF includes five implicate records for each observation to account for both missing data and to protect privacy (Lindamood et al., 2007). We followed standard procedures for analysis of multiple implicates in the US data, as described in Data Appendix Technical Narrative A1.

4.2 Measurement

4.2.1 Wealth and financial asset poverty

While wealth can be studied using a variety of indicators (e.g., financial assets, non-financial assets, debt), we focused on financial assets. The decision to analyze financial assets instead of other indicators was based on their liquid nature, i.e., they can be consumed in times of unexpected shocks. As such this study falls in line with previous research that is informed by the assets for future consumption framework (Haveman & Wolff, 2005, 2004; Nam et al., 2008). Financial assets included cash deposits in financial institutions, and investments in stocks, bonds and mutual funds. Because we focus solely on liquid financial assets this study does not examine other dimensions of household finances such as debts. All financial data were adjusted for

[2] We did not access the original data from the SFS or SCF.

inflation and purchasing power parity, yielding comparable amounts in 2011 US dollars, and equivalized to adjust for household size following Rothwell and Robson (2018). We considered a household as poor in financial assets (hereafter asset poor) if access to wealth resources fell below a standard level of need for a certain period of time (Haveman & Wolff, 2004). To establish the standard level of need, i.e., the asset poverty threshold, we estimated a relative income poverty threshold representing 3 months of income, as is common in the asset poverty literature (e.g., Brandolini et al., 2010; Haveman & Wolff, 2004).[3] In real terms (2011 USD), the financial asset poverty threshold was $3,871 in Canada, and $3,361 in the United States.

4.2.2 Transfer share

Consistent with comparative welfare state literature (Brady & Bostic, 2015; Brady & Burroway, 2012; Korpi & Palme, 1998) and recent research (Brady & Bostic, 2015; Saltkjel & Malmberg-Heimonen, 2017), we operationalized transfer share as the share of household income available through social transfers and outside of the labor or capital markets. Using the available microdata, we defined transfer share as the proportion of disposable household income comprised by public income. The LWS defines public income as "cash social security transfers from insurance, universal, and assistance transfers, and in-kind social assistance transfers" (*Luxembourg Wealth Study (LWS) Database*, n.d.). Canadian examples of public income include provincial social assistance programs (e.g., Ontario Works in Ontario). US examples include TANF and SNAP with administrative rules that vary by state.

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[3] Calculated as 50% of the median equivalized disposable household income divided by four

4.2.3 Other variables

Asset poverty is not equally distributed within countries. In addition to institutional factors, individual characteristics including gender, age and family type can also shape observed savings outcomes. Other factors such as race/ethnicity are not measured consistently across countries and therefore not possible for analysis in this study. Accordingly, we included five additional variables in our models. First, deciles of household market income were generated based on income generated from labor and capital markets and without public income transfers. Family structure was measured as presence of children in the household. An ordered categorical age variable was created for the head of household to account for life cycle influences on wealth ((1) age 25-34; (2) 35-44; and (3) 45-54). We created binary indicators of the household head's education (low-medium, i.e., upper secondary education completed or post-secondary non-tertiary education; high, i.e., tertiary education completed) and employment status (employed/unemployed). See Table 1 for a description of the sample. (See also the Data Appendix, Tables A2 and A3)

[INSERT TABLE 1]

4.3 Analysis

We first produced descriptive summaries of all variables. Next, we analyzed asset poverty rates and composition for each country-year and across demographic variables. Linear probability regression models were then estimated for each country year to predict asset poverty as a function of family structure, age, education, employment, income decile position, and transfer share.[4] In doing so, differences across countries were presumed to be explained by either

[4] We presented linear probability models (LPM) instead of logistic models because a key objective of our analytic approach is to compare coefficients across groups (i.e., country and year groups). LPM

the effects of time (comparing within country over time) or effects specific to the characteristics (both observable and unobserved) of a given country (comparing between countries) (Yu, 2015). Following established methods of cross-national research, we applied sampling weights in descriptive results but not in the regression models (Hook, 2006).

Finally, seeking to better understand asset poverty variation and the relationship to welfare generosity, we estimated two hypothetical poverty scenarios using a decomposition approach. Calculating counterfactual poverty scenarios of this nature is one of the primary research methods in cross-national research (Azpitarte, 2011, 2012; Biewen & Jenkins, 2005; Brady et al., 2017; Chen et al., 2016; Heuveline & Weinshenker, 2008). Decompositions allow us to estimate how Canadian asset poverty rates would change under various scenarios. We first asked, what would the Canadian asset poverty rate be if nothing except the transfer function changed within Canada over time? Based on evidence that the Canadian social welfare system has become less generous over time (Béland et al., 2019), we expected that imposing the more generous transfer share function from 1999 would increase hypothetical poverty rates in 2016. Second, we asked what would the 2016 Canadian asset poverty rate be if it inherited only the 2016 US transfer share function?[5] If the substitution effect holds, we would expect to see lower asset poverty rates in this scenario. Our analysis code was posted online (Anonymous, 2019).

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coefficients have been shown to be more comparable across groups than logistic models, in addition to being more easily interpreted (Breen et al., 2018). LPM and logistic models yielded negligibly different results in terms of average marginal effects, predicted probabilities by transfer share and within-country decompositions. (see Tables A8, A9 and A10 in the Data Appendix)

[5] The term function refers to the systematic relationship estimated in the regression model (in classic decomposition language this is conceptually equivalent to the coefficient, i.e., beta).

5. RESULTS

We find that financial asset poverty has been high in Canada and the US (see Figure 1), particularly relative to official poverty rates (see Data Appendix Table A1). Further, the levels of asset poverty in Canada and the US have diverged over time. In 1998, just over two-thirds of American LMI families had insufficient financial assets to maintain consumption at the income poverty line for 3 months, compared to nearly three-fourths of Canadian households (statistically significant difference between poverty rates $p < .01$). By 2005, differences between countries mostly disappeared, but widened again by 2012/2013 and again at 2016. The time trend generally shows increasing asset poverty for the US and decreasing asset poverty in Canada. By 2016, the asset poverty gap between Canada and the US was 15 percentage points ($p < .001$).

[INSERT FIGURE 1]

A starting point for understanding the differences in asset poverty trends begins with an understanding of cross-national differences in the distribution of income and wealth variables. Across multiple indicators of wealth and measures, Canadian LMI households had greater levels of wealth compared to US LMI households, as shown in Table 2. For example, conditional median financial assets were 2.7 times larger in Canada ($2,416 Canada; $893 US). Cross-national parity in disposable household income was considerably closer, while a comparison of welfare state constructs highlights cross-national differences. In Canada, levels of public income were higher and reached higher into the distribution than in the US, as shown by the unconditional median value of zero in the US compared to $2,438 in Canada. An examination of transfer share across the conditional and unconditional distributions suggests the Canadian welfare state reaches a larger share of the LMI population compared to the US. (See also Data Appendix Figures A2a and A2b.)

[INSERT TABLE 2]

Table 3 reveals further divergence across countries. Within country, all Canadian income deciles in the LMI population experienced declines in asset poverty over time, with families closer to median market income experiencing the largest absolute declines. Large declines in rates of asset poverty were also observed for households with younger (-16 p.p.) and employed (-14 p.p.) household heads. In contrast, most American groups saw increases over time in asset poverty rates, driven by large changes among the relatively advantaged groups, e.g., 45-54 year olds (+18 p.p.) and well-educated (+17 p.p.). In 2016, the largest cross-national differences were observed for deciles 2 and 3 (17 p.p., 22 p.p.), households with children (18 p.p.), and with heads who were 45-54 years (18 p.p.), female (18 p.p.) and employed (17 p.p.). In short, some household characteristics that might otherwise be associated with greater financial security have not protected US households from rising asset poverty in the US. Conversely, characteristics that might otherwise be associated with lower financial security, e.g., presence of children and a female head of household, have become less relevant in Canada since the late 1990s.

[INSERT TABLE 3]

Table 4 reports the composition of the asset poor, providing an indication of over- or under-representation compared to the overall LMI population. In both countries, the proportion of the poor in the lowest decile is unequally distributed relative to the population, with slightly higher inequality concentrated at the bottom in Canada (25% of asset poor in decile 1 in Canada; 23% in US) and at the top in the US (15 % of the asset poor in decile 5 compared to 17% for Canada). The proportions of asset poor made up by the three age categories correspond almost precisely to the distribution of age in both countries. Otherwise, key differences were observed for families with children, who were over-represented in Canada at a greater magnitude than in

the US. The education and employment inequalities appeared larger in Canada compared to the US, while gender inequality appears larger in the US.

[INSERT TABLE 4]

How has welfare generosity changed over time in the countries? As a starting point, transfer income reached a far greater proportion of the Canadian LMI population. In 2016, 96% of Canadian households received some transfer income. The US analogue was 41%. Trend analysis suggested modest declines in Canada (98% in 1999 to 96% in 2016) compared to increases in the US (25% in 1998; 41% in 2016) (See Table A2 in the Data Appendix). We extended the analysis by plotting the survey weighted mean transfer shares and asset poverty rates across income deciles 1-5 for all country-years (see Figures 2a and 2b).[6] In Canada, higher levels of transfer shares were associated with higher levels of asset poverty. The patterns appears similar across years where the lower (dotted) line reflects lower asset poverty rates in 2016 relative to 1999. The difference in decile positions (marked as rectangles) across the two waves reflects a modest decline in average household transfer shares in Canada. For example, households in decile 1 in Canada had a transfer share of 84% in 1999 which declined to 78% in 2016. Figure 2b shows a sharply contrasting pattern in the US, where asset poverty risk falls quickly along the income distribution; only the lowest decile receives considerable transfer share in the US (50% in 1998 and 56% in 2016).

[INSERT FIGURES 2a and 2b]

Multivariate regression results are presented in Figure 3. (see also Table A4 in the Data Appendix). Controlling for other variables, transfer share – the primary variable of interest – was

[6] The plots should be interpreted cautiously because of their multivariate nature, i.e., the inclusion of the income deciles in addition to the bivariate scatterplot of asset poverty and transfer share.

positively related to asset poverty in both years for Canada, although the magnitude in 2016 was proportionally 36% less than the same coefficient in 1999 (both years statistically significant at $p < .01$). Translating this to asset poverty risk, for Canada 1999, at transfer share 30% the predicted risk of asset poverty was 74%, and for a 10-unit increase in transfer share we expect a corresponding 2.5 percentage point increase in asset poverty risk. In contrast, the US 1998 coefficient was positive, but not significantly different from zero. Post-hoc calculations of predicted probabilities showed that increasing the transfer share from 5% to 50% in the US increased the risk of asset poverty by less than 1 percentage point, essentially no effect. For the US 2016 data, the coefficient reversed to negative, it similarly was not statistically significant from zero, and an increased transfer share from 5% to 50% decreased the predicted probability of asset poverty by less than 2 percentage points. In both years, the US coefficient was very close to zero. In comparison, the same analysis in Canada 2016 produced an increase in asset poverty risk by 7 percentage points (61 to 68).

[INSERT Figure 3]

The regressions reveal more differences than similarities. For simplicity, we focus on 2016 results across countries. Families with children were less likely to be asset poor in Canada, but more likely to be asset poor in the US. There was a strong negative age gradient in Canada, but no comparable relationship was observed in the US. The gradient by income decile was roughly similar across countries up to decile 5. Relative to decile 1, families in decile 5 in the US had about a 30% lower probability of asset poverty (in Canada 17% lower probability).

Last, we turn to the counterfactual poverty estimates. The observed Canada asset poverty rate was 62% in 2016. Holding the transfer share constant from 1999 to 2016, but changing nothing else, produced an increase in asset poverty of 4 p.p. to 66%. Implications of these

counterfactuals are discussed below. Imposing the 2016 US transfer share function alone, while holding other Canadian coefficients as they appear in Figure 3, resulted in an asset poverty rate decrease of three percentage points to 59% (see Figure 4).

[INSERT FIGURE 4 ABOUT HERE]

To test the sensitivity of our main findings to alternate specifications, we estimated three additional models. First, we added a quadratic term for transfer share to the main regression models. Second, we used an alternative measure of household type that accounts for both the presence of children and number of adults. Third, we pooled the data across years for each country and reran the regressions found in Figure 3. These tests, described in Data Appendix Technical Narrative A1 and presented Data Appendix Tables A5, A6 and A7, support our main findings. We also tested the main model using a logistic regression, which yielded comparable results, as shown in Data Appendix Tables A8, A9 and A10.

6. DISCUSSION

Asset poverty is high in both Canada and the United States and, relative to the full population, is more heavily concentrated among LMI households. In other words, the majority of LMI households in both countries lacked sufficient financial assets to maintain consumption at the income poverty threshold for 3 months. Within countries, we find diverging cross-national patterns. At the starting point for our study in the late 1990s, asset poverty was higher in Canada than in the United States. Nearly twenty years later, the levels were reversed: asset poverty declined by 12 percentage points for Canada and increased by 10 percentage points in the United States. Both countries witnessed demographic changes that would be expected to reduce asset poverty, such as an increase in education and age of household heads. Yet, poverty rates took different trajectories for these groups of relatively advantaged (see Table 3 and related

discussion). In general, poverty declined for households with older and more educated heads in Canada while increasing for the same groups in the U.S. According to the most recent wealth data available, financial vulnerability as measured by asset poverty affected three-fourths of low and middle income American households and has become a concern for the middle class. Multivariate regressions reveal variation in age and income gradients across countries, suggesting different "penalties" associated with various characteristics (Brady et al., 2017).

The primary aim of this study is to advance understanding of how public income relates to patterns of wealth accumulation in the form of asset poverty rates. For the most part, our results support theoretical expectations that, under certain conditions, a more generous welfare provisions in the form of public income negatively relates to private asset accumulation. Consider that asset poverty increased when Canada's relatively larger transfer share coefficient from the first wave in 1999 was applied to 2016. For a counterfactual with considerably lower levels of public income receipt, applying the near-zero transfer coefficient from the US welfare system to Canada resulted in decreased asset poverty rates. While suggestive, we do not interpret this to mean higher transfer shares *cause* greater levels of financial asset poverty. Compared to the US, Canada has low comparative asset poverty and its welfare system is characterized by greater investments in social programs, greater income poverty reduction through tax and transfer systems, and higher levels of support to more families (see Data Appendix Table A1). Overall, we see higher asset poverty in the US context of welfare scarcity where transfers are concentrated among the poorest households, but essentially no significant relationship between transfer share and asset poverty among the US population. In contrast, in Canada with vastly more people receiving public income (Canada), there is a positive relationship between transfer share and asset poverty, even in the presence of overall lower asset poverty.

These results align with the views of previous scholars who summarized the relationship between public policy, assets, and wealth as a "complex and inconsistent story" (Hills & Glennerster, 2013, p. 165). The greater overall risk for asset poverty experienced by American households, and the decrease over time in the proportion of Canadian households with transfers, underscores a trend toward the privatization of risk associated with social policy retrenchment (Hacker, 2008). Moreover, our findings suggest a paradox. Low to middle income households in Canada (where transfer income comprises a much greater proportion of total income than the United States) have a lower overall likelihood of being asset-poor. Yet, as public income transfers decreased (retrenchment) their likelihood of asset poverty decreases (counterfactual scenarios supported the opposite mechanism as well: increased transfers increased asset poverty). In the relatively less generous and retrenched United States, households have a higher overall likelihood of being asset poor, but, from our analysis, low to moderate income households appear unaffected by levels of transfer share.

What are the implications of this paradox for social policy? Both Canada and the United States are considered liberal welfare states, yet our results show considerable within-group variation in the influence of levels and rates of changes of public transfers, suggesting a need for nuanced policy analysis and formulation. Specifically, the level of transfer share matters in itself. The reach of the welfare system as operationalized by public income is far greater in Canada than the United States. Small changes to a far-reaching and less retrenched welfare system (Canada) appear to have greater impact on asset poverty risk than changes to a more threadbare social safety net (US). The outcomes of future retrenchment and austerity seem to depend on the scope and reach of current public income in aggregate. Further, welfare states evolve and these different paths matter for explaining variation within the liberal welfare state cluster. One

particular change that we isolate in this study – changes in transfer share of public income across the income distribution – may explain more about asset poverty than the current level of transfer share; when evaluating prospective changes to public income transfers policymakers should consider potential long-term trends in asset poverty.

Results invite further consideration of the concept of asset poverty and implications for related policy goals. At least two policy areas offer clear connections. Canada has a range of asset building policies that are institutionalized federally (e.g., see the range of registered retirement, college education, and disability savings plans); whereas similar policies in the US are far more patchwork with considerable variation from state to state, community to community. Although we did not explicitly model in this analysis, it is plausible that the more institutionalized nature of asset building policies in Canada explain how low to moderate income households in Canada accumulate more savings at greater rates than similar households south of the border (see Lewis & Elliott, 2014 for CESG comparison). The second policy area is asset limits embedded in social welfare eligibility. Despite mixed empirical evidence on behavioral responses (Hurst & Ziliak, 2006), recent work from the US suggests that relaxing or eliminating asset limits in TANF does not increase enrollment and lowers administrative costs associated with certification (The Pew Charitable Trusts, 2016). Comparisons of asset poverty rates across jurisdictions within North America with different asset limits is needed. Additionally, much works remains parsing out how financial asset poverty compares to other forms of asset poverty such as total assets and indicators that consider debt such as net worth. Empirically investigating more cross-national variation and its relationship to wealth accumulation will be an important next step.

In this study we made structured and systematic comparisons of financial asset poverty across the US and Canada. Nevertheless, we note some important omissions and limitations. First, the role of health care spending and out of pocket medical expenses places US families at greater financial risk compared to Canadians who have access to universal health care. Second, there is much variation in welfare structure across US states and Canadian provinces (Bruch et al., 2018), but the LWS wealth data is only available at the country level. Third, inequalities in wealth accumulation exist in both countries along racial/ethnic lines, but racial/ethnic categories were not available in the LWS data. Fourth, households might draw down on tax-preferred retirement plans such as Registered Retirement Savings Plans (RRSP in Canada) and Individual Retirement Account (IRAs in US), which were not systematically available in the LWS. Last, we assume a contemporaneous association between welfare state and asset poverty. An alternative would be that welfare state characteristics take time to shape household financial decisions. In this vein, future work may consider the lagged impact of welfare state characteristics.

In conclusion, our analysis offers evidence of an important, if paradoxical, relationship between welfare state generosity and asset poverty, and underscores the argument that household income is an incomplete proxy for measuring standard of living. Attention to income has guided social policy, particularly with respect to redistribution through tax and transfer programs. However, less attention has been paid to wealth and to thinking about the consequences of public policy on household financial resources when both income and wealth are included. And yet, governments adopt different mixes of supports and penalties for LMI households to acquire, retain or liquidate financial assets. Future releases of more comparable wealth data over time and across more countries will allow more tests of welfare state theories. Further, sub-national studies of policy impact on household assets may be a promising avenue for future research.

Finally, extending this inquiry to countries beyond the liberal welfare state regime will be a valuable test of the relationships we report.

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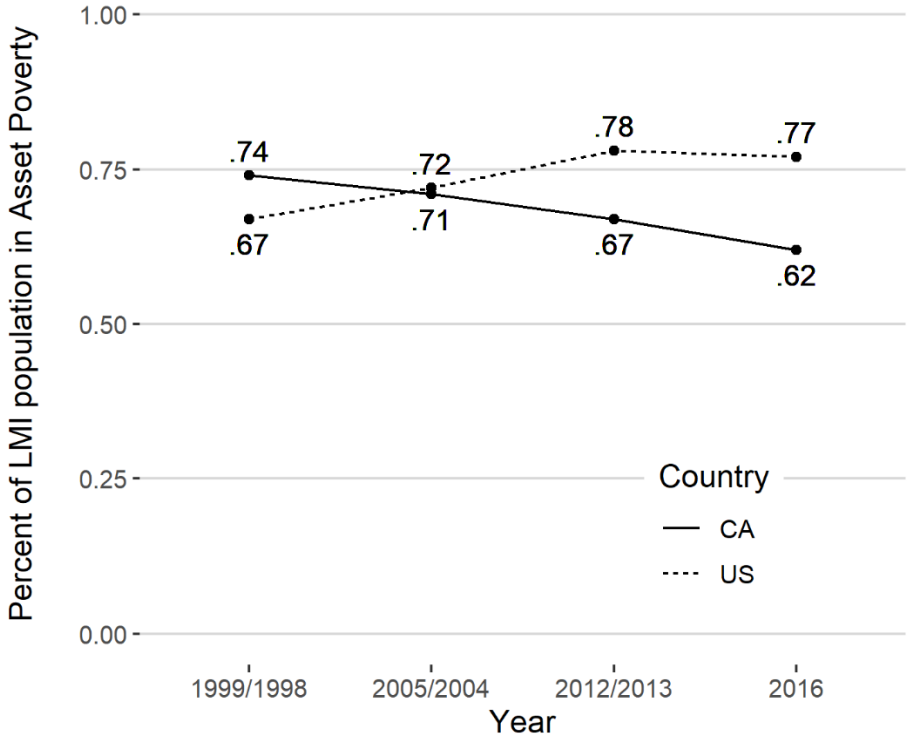
Figure 1. Asset poverty rates over time

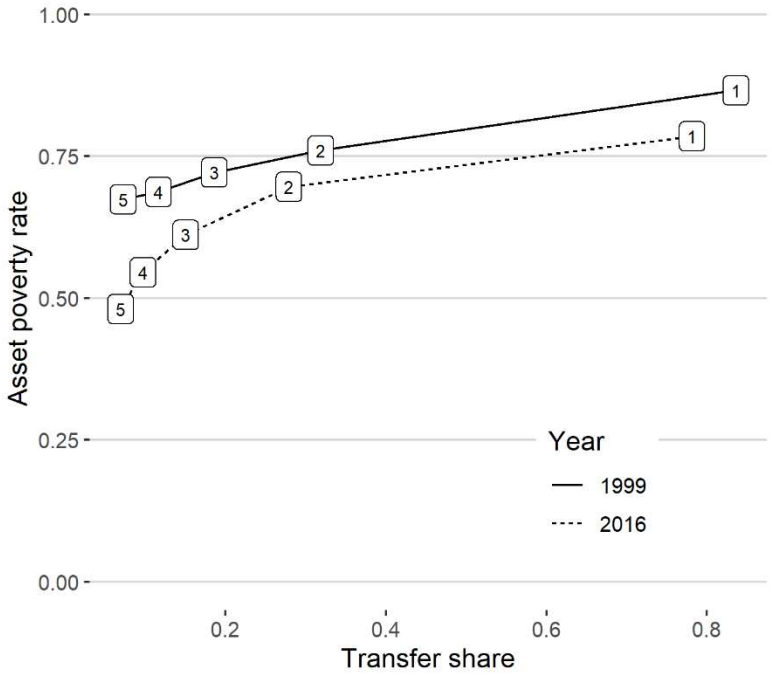


Note:
CA data: 1999, 2005, 2012, 2016
US data: 1998, 2004, 2013, 2016

Figures 2a and 2b. Asset Poverty Rates and Transfer Share by Decile

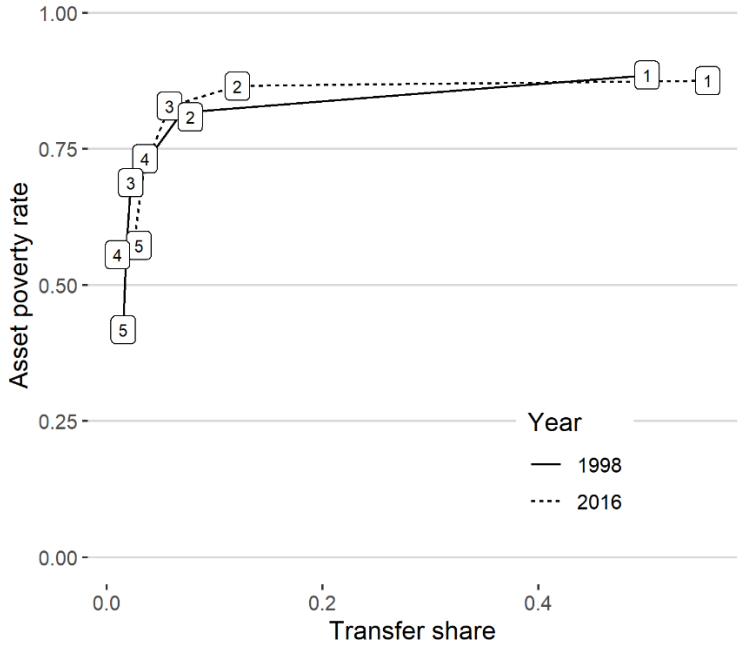
Note: Numbers 1-5 represent Deciles 0-0.1, 0.1-0.2, 0.2-0.3, 0.3-0.4 and 0.4-0.5, respectively.

Figure 2a: Transfer Share and Asset Poverty Rate by Decile: Canada



Note: Market income decile positions marked as rectangles 1-5

Figure 2b: Transfer Share and Asset Poverty Rate by Decile: United States



Note: Market income decile positions marked as rectangles 1-5

Figure 3. Linear Probability Model Regression Results Predicting Financial Asset Poverty

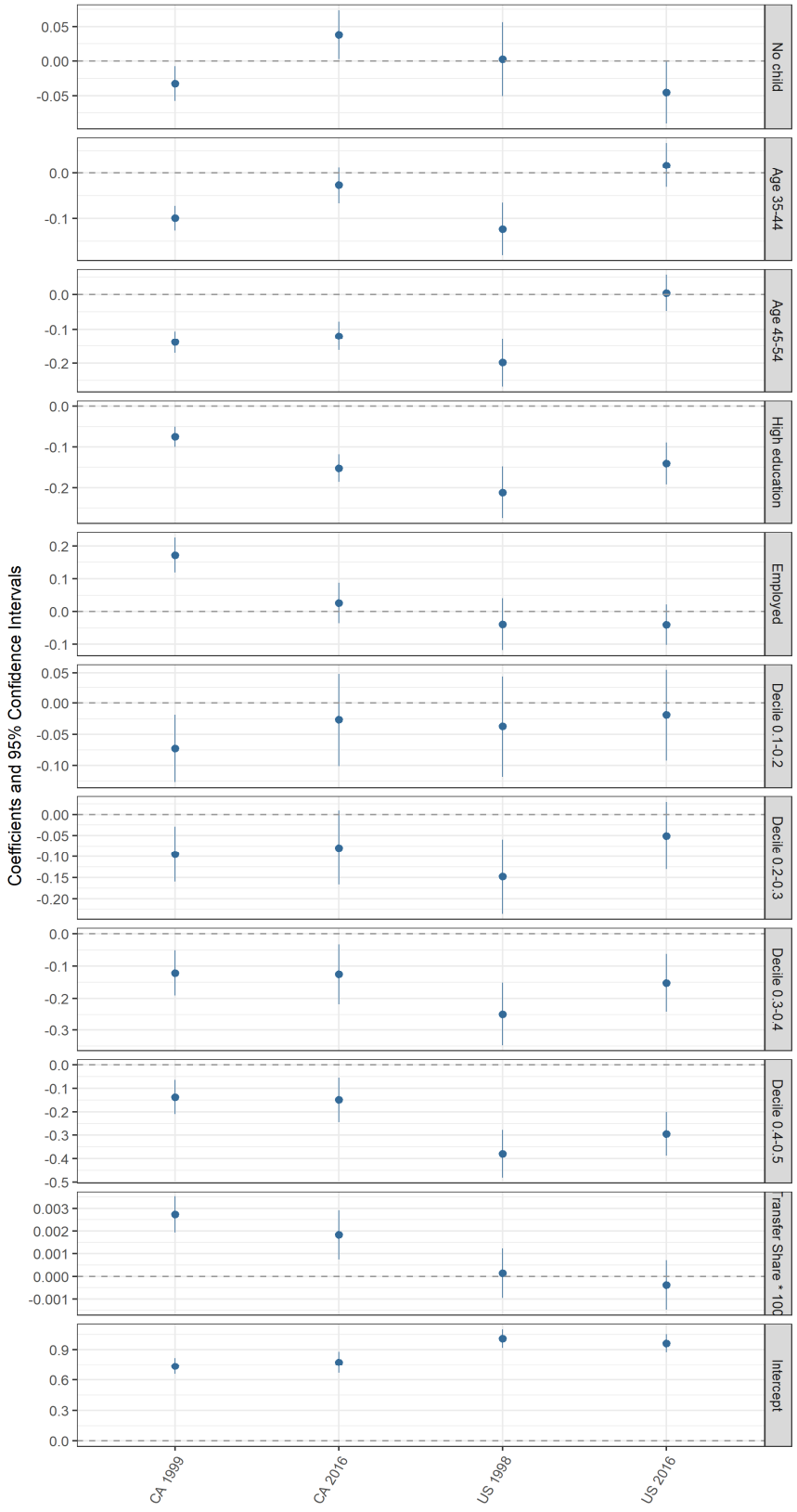


Figure 4. Counterfactual Asset Poverty Rates for Canada

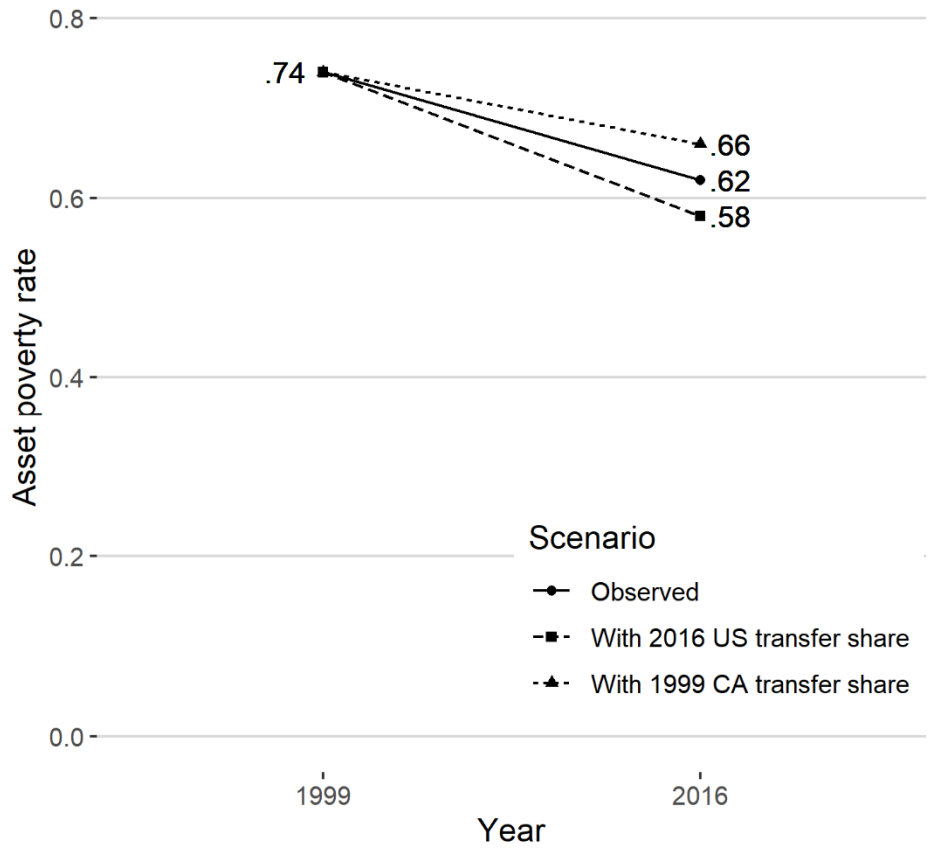


Table 1. Description of the Sample

	Canada				United States			
	1999	**2005**	**2012**	**2016**	**1998**	**2004**	**2013**	**2016**
Decile (n)[1]								
0.0-0.1	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
0.1-0.2	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
0.2-0.3	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
0.3-0.4	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
0.4-0.5	0.20	0.20	0.20	0.21	0.20	0.20	0.20	0.20
Household Type (%)								
No child in hh	0.47	0.54	0.55	0.55	0.36	0.35	0.36	0.37
Child in hh	0.53	0.46	0.44	0.44	0.64	0.65	0.64	0.63
Age of hh head (%)								
25-34	0.35	0.35	0.37	0.36	0.37	0.34	0.35	0.35
35-44	0.40	0.36	0.36	0.34	0.38	0.37	0.32	0.32
45-54	0.25	0.29	0.27	0.30	0.25	0.29	0.33	0.33
Education (%)								
Low	0.26	0.20	0.13	0.11	0.17	0.17	0.15	0.19
Medium	0.58	0.58	0.61	0.58	0.57	0.60	0.58	0.49
High	0.15	0.23	0.26	0.31	0.26	0.23	0.26	0.33
Employed household head (%)								
Not Employed	0.26	0.24	0.22	0.25	0.16	0.15	0.23	0.19
Employed	0.74	0.76	0.78	0.75	0.84	0.85	0.77	0.81
Receive Public Transfers (%)	0.98	0.98	0.97	0.96	0.25	0.29	0.44	0.41
Sample (n)	4,804	1,502	2,925	2,989	6,304	6,361	7,937	7,720

[1] Deciles are based on values of factor income (labour and capital income) for the full population. When the population is restricted to the LMI population, only the bottom five deciles are represented. All values of factor income are inflation/PPP-adjusted, equivalized for household size and top/bottom-coded.

Table 2. Assets, Income and Public Transfers among LMI Population in Canada and US (2016)

	Unconditional						Conditional on Positive					
	Mean		Median		Std Dev		Mean		Median		Std Dev	
	Canada	US	Canada	US	Canada	US	Canada	US	Canada	US	Canada	US
Financial Assets[1]	6,764	3,576	2,098	812	11,211	7,160	7,202	3,747	2,416	893	11,431	7,285
Non-financial Assets	117,079	49,551	30,526	11,340	187,730	82,318	117,079	57,808	30,526	18,744	187,730	86,187
Net Worth	73,709	27,357	20,038	5,465	117,733	48,386	86,638	36,465	32,416	13,864	123,177	52,807
Disposable Household Income	20,470	18,039	21,468	17,774	9,004	11,768	20,506	18,075	21,495	17,790	8,971	11,753
Public Income	3,974	2,182	2,438	0	4,135	4,897	4,166	5,448	2,682	3,247	4,138	6,486
Transfer share (%)[2]	0.27	0.15	0.14	0.00	0.31	0.29	0.28	0.38	0.15	0.26	0.31	0.34

[1] All USD and CAD are inflation and PPP adjusted.

[2] Transfer share is proportion of disposable household income made up of public income.

Table 3. Rates of Financial Asset Poverty across Demographic Groups

		Canada		United States	
		1999	**2016**	**1998**	**2016**
Overall Asset Poverty		0.74	0.62	0.67	0.77
Decile (n)[1]					
	0.0-0.1	0.87	0.79	0.89	0.87
	0.1-0.2	0.76	0.70	0.82	0.87
	0.2-0.3	0.72	0.61	0.69	0.83
	0.3-0.4	0.69	0.55	0.56	0.71
	0.4-0.5	0.67	0.48	0.42	0.57
Household Type					
	No child in hh	0.73	0.64	0.66	0.72
	Child in hh	0.75	0.61	0.68	0.79
Age of hh head					
	25-34	0.80	0.64	0.76	0.74
	35-44	0.74	0.64	0.63	0.79
	45-54	0.67	0.59	0.59	0.77
Sex of hh head (%)					
	Male	n/a	0.62	0.64	0.75
	Female	n/a	0.63	0.74	0.81
Education of hh head(%)					
	Low/medium	0.77	0.68	0.74	0.83
	High	0.61	0.49	0.48	0.65
Employed household head (%)					
	Not Employed	0.81	0.75	0.81	0.85
	Employed	0.72	0.58	0.64	0.75
	Sample (n)	4,804	2,989	6,304	7,720

[1] Deciles are based on values of factor income (labour and capital income) for the full population. When the population is restricted to the LMI population, only the bottom five deciles are represented. All values of factor income are inflation/PPP-adjusted, equivalized for household size and top/bottom-coded.

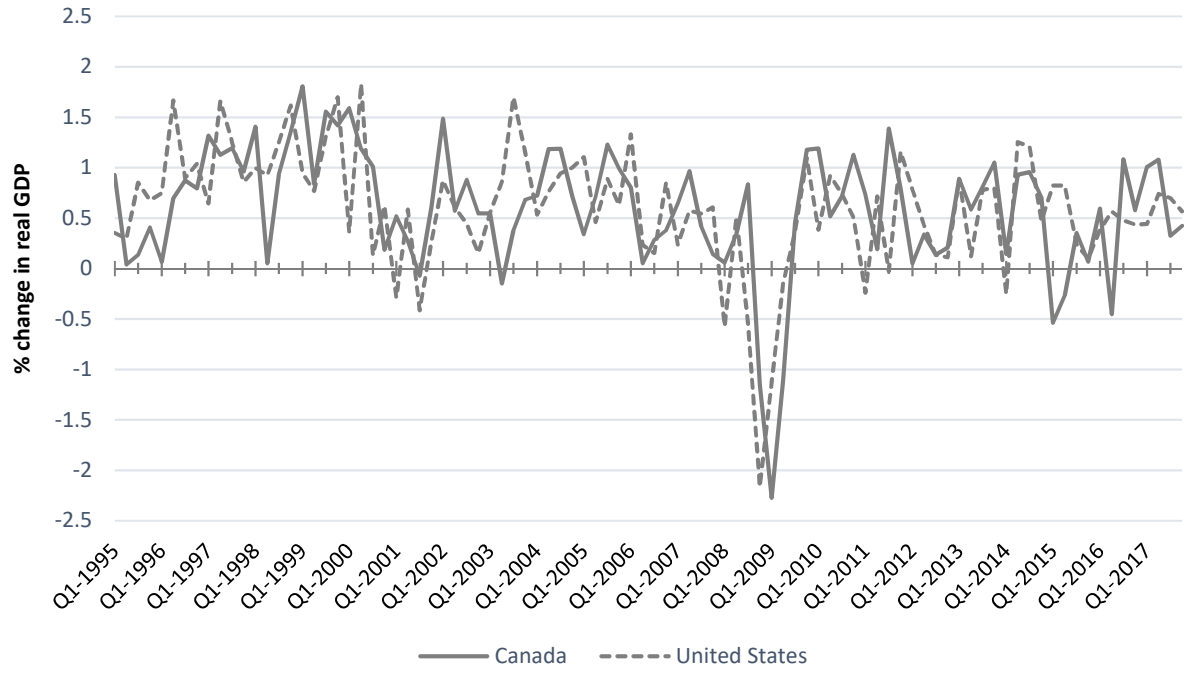
Table 4. Composition of the Financially Asset Poor

		Canada		United States	
		1999	**2016**	**1998**	**2016**
Decile (%)[1]					
	0.0-0.1	0.23	0.25	0.26	0.23
	0.1-0.2	0.21	0.22	0.24	0.22
	0.2-0.3	0.20	0.19	0.20	0.21
	0.3-0.4	0.19	0.17	0.17	0.19
	0.4-0.5	0.18	0.17	0.12	0.15
Household Type (%)					
	No child in hh	0.40	0.50	0.36	0.36
	Child in hh	0.60	0.50	0.64	0.64
Age of hh head (%)					
	25-34	0.37	0.36	0.41	0.33
	35-44	0.39	0.34	0.37	0.34
	45-54	0.24	0.30	0.22	0.33
Sex of hh head (%)					
	Male	n/a	0.53	0.69	0.66
	Female	n/a	0.47	0.31	0.34
Education of hh head (%)					
	Low/Medium	0.89	0.80	0.81	0.73
	High	0.11	0.20	0.19	0.27
Employed household head (%)					
	Not Employed	0.29	0.31	0.20	0.21
	Employed	0.71	0.69	0.80	0.79
Sample (n)		4,804	2,989	6,304	7,720

[1] Deciles are based on values of factor income (labour and capital income) for the full population. When the population is restricted to the LMI population, only the bottom five deciles are represented. All values of factor income are inflation/PPP-adjusted, equivalized for household size and top/bottom-coded.

Data Appendix

Figure A1. Quarterly change in Gross Domestic Product[1], Canada and the United States, 1995 to 2017



[1] GDP quarterly growth rate, over previous quarter

Source: Organization for Economic Cooperation and Development, OECD.stat Database

Figures A2a and A2b. Composition of Wealth in 2016

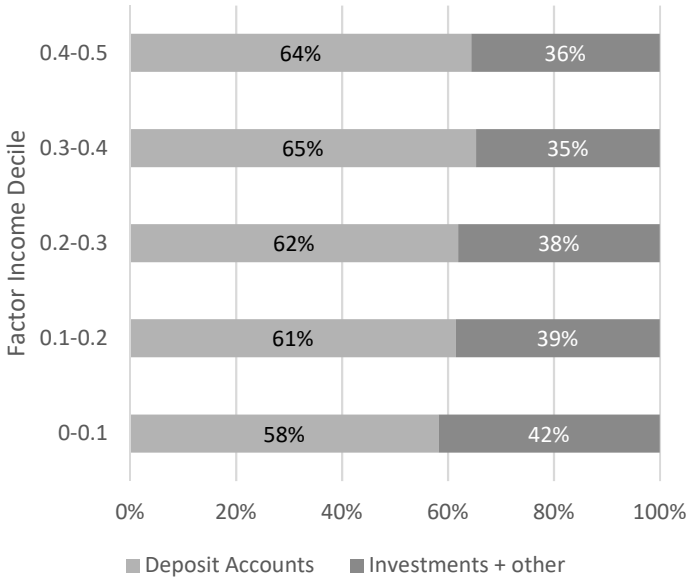


Figure 2a: Composition of Wealth in Canada (2016)

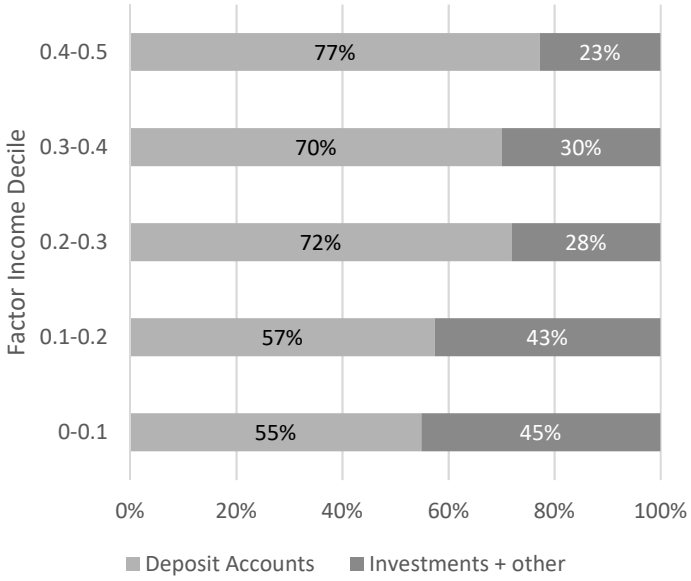


Figure 2b: Composition of Wealth in United States (2016)

Table A1. Selected indicators for Canada and the United States, full population (2016)

Public social spending	**Canada**	**United States**
Total public spending on family benefits (cash) as a share of GDP	1.3%	0.1%
Total public spending on family benefits (in kind) as a share of GDP	0.2%	0.6%
Total public spending on family benefits (cash + in kind) as a share of GDP	1.5%	0.7%
Poverty rate (Low Income Measure/relative poverty rate), before taxes and transfers	24.5%	26.6%
Poverty rate (Low income Measure/relative poverty rate), after taxes and transfers	12.4%	17.8%
Poverty reduction from the tax and transfer system	-12.1%	-8.8%
Household finances		
Mean disposable household income (equivalized, PPP adjusted)	$37,565 USD	$34,514 USD
Mean household net worth (PPP adjusted)	$446,006 USD	$632,100 USD
Mean household financial assets (PPP adjusted)	$189,815 USD	$434,1000 USD
Mean household debts (PPP adjusted)	$77,634 USD	$102,900 USD
Share of wealth owned by top 1%	Not available	42.5%
Share of population in asset-poverty (3 months at Low Income Measure) using net worth (all assets less all debts)	12.0%	30.3%
Share of population in asset-poverty (3 months at Low Income Measure) using liquid financial assets	44.0%	53.5%

Source: Organization for Economic Cooperation and Development, OECD.stat Database.

Table A2. Description of the sample -- Demographics

	Canada				United States			
	1999	**2005**	**2012**	**2016**	**1998**	**2004**	**2013**	**2016**
Decile (n)[1]								
0.0-0.1	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
0.1-0.2	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
0.2-0.3	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
0.3-0.4	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
0.4-0.5	0.20	0.20	0.20	0.21	0.20	0.20	0.20	0.20
Household Type (%)								
No child in hh	0.47	0.54	0.55	0.55	0.36	0.35	0.36	0.37
Child in hh	0.53	0.46	0.44	0.44	0.64	0.65	0.64	0.63
Age of hh head (%)								
25-34	0.35	0.35	0.37	0.36	0.37	0.34	0.35	0.35
35-44	0.40	0.36	0.36	0.34	0.38	0.37	0.32	0.32
45-54	0.25	0.29	0.27	0.30	0.25	0.29	0.33	0.33
Sex of hh head (%)								
Male	n/a	0.55	0.57	0.54	0.72	0.68	0.67	0.69
Female	n/a	0.45	0.43	0.46	0.28	0.32	0.33	0.31
Education (%)								
Low	0.26	0.20	0.13	0.11	0.17	0.17	0.15	0.19
Medium	0.58	0.58	0.61	0.58	0.57	0.60	0.58	0.49
High	0.15	0.23	0.26	0.31	0.26	0.23	0.26	0.33
Employed hh head (%)								
Not Employed	0.26	0.24	0.22	0.25	0.16	0.15	0.23	0.19
Employed	0.74	0.76	0.78	0.75	0.84	0.85	0.77	0.81
Receive Public Transfers (%)	0.98	0.98	0.97	0.96	0.25	0.29	0.44	0.41
Sample (n)	4,804	1,502	2,925	2,989	6,304	6,361	7,937	7,720

[1] Deciles are based on values of factor income (labour and capital income) for the full population. When the population is restricted to the LMI population, only the bottom five deciles are represented. All values of factor income are inflation/PPP-adjusted, equivalized for household size and top/bottom-coded.

Table A3. Description of Income and Wealth Variables

	Canada				United States			
	1999	**2005**	**2012**	**2016**	**1998**	**2004**	**2013**	**2016**
Financial assets[1]								
Mean	3,082	3,602	5,138	6,764	5,942	5,303	3,083	3,576
Median	627	872	1,275	2,098	1,256	932	569	812
Disposable Income								
Mean	15,629	16,973	19,569	20,470	19,084	19,493	17,226	18,039
Median	15,752	17,357	20,551	21,468	18,758	19,903	16,834	17,774
Factor Income								
Mean	13,253	15,444	17,563	18,613	22,647	21,808	16,220	18,149
Median	13,932	16,114	19,171	19,530	23,418	23,578	16,167	18,744
Transfer Income								
Mean	3,655	3,394	3,725	3,974	1,436	1,666	2,616	2,182
Median	2,147	2,065	2,103	2,438	-	-	-	-
Transfer Share (%)								
Mean	0.31	0.28	0.27	0.27	0.12	0.12	0.18	0.15
Median	0.17	0.14	0.14	0.14	0.00	0.00	0.00	0.00
Sample (n)	4,804	1,502	2,925	2,989	6,304	6,361	7,937	7,720

[1] All USD and CAD are inflation and PPP adjusted

Table A4. Linear Probability Regression Results Predicting Financial Asset Poverty

	Canada				United States[3]			
	1999		2016		1998		2016	
	Coeff (1)	se (2)	Coeff (3)	se (4)	Coeff (5)	se (6)	Coeff (7)	se (8)
Household Type (%)								
No child in hh	-0.03**	0.01	0.04**	0.02	0	0.03	-0.05*	0.02
Child in hh	omit	omit	omit	omit	omit	omit	omit	omit
Age of hh head (%)								
25-34	omit	omit	omit	omit	omit	omit	omit	omit
35-44	-0.1***	0.01	-0.03	0.02	-0.12***	0.03	0.02	0.02
45-54	-0.14***	0.02	-0.12***	0.02	-0.2***	0.04	0	0.03
Education of hh head (%)								
Low/medium	omit	omit	omit	omit	omit	omit	omit	omit
High	-0.08***	0.01	-0.15***	0.02	-0.21***	0.03	-0.14***	0.03
Employed household head (%)								
Not Employed	omit	omit	omit	omit	omit	omit	omit	omit
Employed	0.17***	0.03	0.03	0.03	-0.04	0.04	-0.04	0.03
Decile (%)[1]								
0.0-0.1	omit	omit	omit	omit	omit	omit	omit	omit
0.1-0.2	-0.07***	0.03	-0.03	0.04	-0.04	0.04	-0.02	0.04
0.2-0.3	-0.09***	0.03	-0.08*	0.04	-0.15***	0.05	-0.05	0.04
0.3-0.4	-0.12***	0.04	-0.13***	0.05	-0.25***	0.05	-0.15***	0.05
0.4-0.5	-0.14***	0.04	-0.15***	0.05	-0.38***	0.05	-0.29***	0.05
Transfer share[4]	0.0027***	0.0004	0.0018***	0.0006	0.0001	0.0006	-0.0004	0.0006
Constant	0.74***	0.04	0.78***	0.05	1.01***	0.05	0.96***	0.04

[1] All USD and CAD are inflation and PPP adjusted

[2] Statistical significance indicated by * 0.10 ** 0.05 ***0.01

[3] US data include 5 implicates; Stata mi estimate commands are used to estimate all US models

[4] Transfer share is multiplied by 100 to facilitate interpretation

Table A5. Alternative Linear Probability Regression Results Predicting Financial Asset Poverty with Quadratic Term for Transfer Share

	Canada				United States[3]			
	1999		2016		1998		2016	
	Coeff	se	Coeff	se	Coeff	se	Coeff	se
Household Type (%)								
No child in hh	-0.04***	0.01	0.03	0.02	0	0.03	-0.04*	0.02
Child in hh	omit	omit	omit	omit	omit	omit	omit	omit
Age of hh head (%)								
25-34	omit	omit	omit	omit	omit	omit	omit	omit
35-44	-0.1***	0.01	-0.03	0.02	-0.12***	0.03	0.02	0.02
45-54	-0.14***	0.02	-0.12***	0.02	-0.2***	0.04	0	0.03
Education of hh head (%)								
Low/medium	omit	omit	omit	omit	omit	omit	omit	omit
High	-0.08***	0.01	-0.15***	0.02	-0.21***	0.03	-0.14***	0.03
Employed household head (%)								
Not Employed	omit	omit	omit	omit	omit	omit	omit	omit
Employed	0.18***	0.03	0.03	0.03	-0.04***	0.04	-0.04***	0.03
Decile (%)[1]								
0.0-0.1	omit	omit	omit	omit	omit	omit	omit	omit
0.1-0.2	-0.04	0.03	-0.01	0.04	-0.04	0.04	-0.02	0.04
0.2-0.3	-0.07**	0.03	-0.07	0.05	-0.15***	0.05	-0.05	0.04
0.3-0.4	-0.11***	0.04	-0.12**	0.05	-0.25***	0.05	-0.15***	0.05
0.4-0.5	-0.12***	0.04	-0.15***	0.05	-0.38***	0.05	-0.29***	0.05
Transfer share[4]	0.00121	0.0008	0.00016	0.0012	0.00056	0.0018	0.00188	0.0013
Transfer share squared[4]	0.00002**	0.0000	0.00002	0.0000	0	0.0000	-0.00003**	0.0000
Constant	0.73***	0.0406	0.78***	0.0542	1.01***	0.0461	0.95***	0.0454

[1] All USD and CAD are inflation and PPP adjusted

[2] Statistical significance indicated by * 0.10 ** 0.05 ***0.01

[3] US data include 5 implicates; Stata mi estimate commands are used to estimate all US models

[4] Transfer share is multiplied by 100 to facilitate interpretation

Table A6. Alternative Linear Probability Regression Results Using Substitute Measure of Household Type

	Canada				United States[3]			
	1998		2016		1999		2016	
	Coeff	se	Coeff	se	Coeff	se	Coeff	se
Household Type (%)								
Single parent	omit	omit	omit	omit	omit	omit	omit	omit
Two parent	-0.06***	0.02	-0.02	0.03	-0.05	0.03	-0.03	0.03
Single adult	-0.03*	0.02	0.04	0.03	0	0.04	-0.07**	0.03
Couple-no-child	-0.05*	0.02	-0.02	0.04	-0.09*	0.05	-0.05	0.04
Other	-0.2***	0.03	0.03	0.03	-0.03	0.13	-0.04	0.07
Age of hh head (%)								
25-34	omit	omit	omit	omit	omit	omit	omit	omit
35-44	-0.1***	0.01	-0.03	0.02	-0.13***	0.03	0.02	0.02
45-54	-0.14***	0.02	-0.12***	0.02	-0.2***	0.04	0	0.03
Education of hh head (%)								
Low/medium	omit	omit	omit	omit	omit	omit	omit	omit
High	-0.08***	0.01	-0.15***	0.02	-0.22***	0.03	-0.14***	0.03
Employed household head (%)								
Not Employed	omit	omit	omit	omit	omit	omit	omit	omit
Employed	0.17***	0.03	0.03	0.03	-0.04	0.04	-0.04	0.03
Decile (%)[1]								
0.0-0.1	omit	omit	omit	omit	omit	omit	omit	omit
0.1-0.2	-0.03	0.03	-0.02	0.04	-0.03	0.04	-0.02	0.04
0.2-0.3	-0.03	0.03	-0.07	0.05	-0.13***	0.05	-0.05	0.04
0.3-0.4	-0.06	0.04	-0.11**	0.05	-0.23***	0.05	-0.15***	0.05
0.4-0.5	-0.06*	0.04	-0.14***	0.05	-0.36***	0.05	-0.29***	0.05
Transfer share[4]	0.00041***	8.0600	0.00056***	3.2800	0.00055***	0.1800	0.00056***	-0.7300
Constant	0.71***	0.0414	0.78***	0.0556	1.03***	0.0482	0.98***	0.0463

[1] All USD and CAD are inflation and PPP adjusted

[2] Statistical significance indicated by * 0.10 ** 0.05 ***0.01

[3] US data include 5 implicates; Stata mi estimate commands are used to estimate all US models

[4] Transfer share is multiplied by 100 to facilitate interpretation

Table A7. Linear Probability Regression Results Predicting Financial Asset Poverty with Pooled Sample

	Canada		United States	
	Coeff	se	Coeff	Se
Household Type (%)				
No child in hh	0.02	0.01	-0.03***	0.00
Child in hh	omit	omit	omit	omit
Age of hh head (%)				
25-34	omit	omit	omit	omit
35-44	-0.08***	0.01	-0.05***	0.01
45-54	-0.14***	0.01	-0.08***	0.01
Education of hh head (%)				
Low/medium	omit	omit	omit	omit
High	-0.21***	0.01	-0.22***	0.02
Employed household head (%)				
Not Employed	omit	omit	omit	omit
Employed	0.09***	0.02	-0.03	0.02
Decile (%)[1]				
0.0-0.1	omit	omit	omit	omit
0.1-0.2	-0.07***	0.02	-0.03	0.02
0.2-0.3	-0.11***	0.02	-0.1***	0.02
0.3-0.4	-0.13***	0.02	-0.17***	0.02
0.4-0.5	-0.16***	0.02	-0.3***	0.02
Transfer share[4]	0.002***	0.0003	-0.0004	0.0003
Year				
t1	omit	omit	omit	omit
t2	-0.02	0.01	0.06	0.02
t3	-0.06***	0.01	0.13	0.02
t4	-0.06***	0.01	0.13	0.02
Constant	0.8***	0.03	0.92***	0.02

[1] All USD and CAD are inflation and PPP adjusted

[2] Statistical significance indicated by * 0.10 ** 0.05 ***0.01

[3] US data include 5 implicates; Stata mi estimate commands are used to estimate all US models

[4] Transfer share is multiplied by 100 to facilitate interpretation

Table A8. Comparison of Average Marginal Effects from LPM and Logistic Models

	Canada				United States[3]			
	1999		2016		1998		2016	
Variable	**LPM (1)**	**Logistic (2)**	**LPM (3)**	**Logistic (4)**	**LPM (5)**	**Logistic (6)**	**LPM (7)**	**Logistic (8)**
Household Type (%)								
No child in hh	-0.03**	-0.04***	0.04**	0.04***	0	0***	-0.05*	-0.04***
Child in hh	omit	omit	omit	omit	omit	omit	omit	omit
Age of hh head (%)								
25-34	omit	omit	omit	omit	omit	omit	omit	omit
35-44	-0.1***	-0.1***	-0.03	-0.03***	-0.12***	-0.13***	0.02	0.02***
45-54	-0.14***	-0.14***	-0.12***	-0.12***	-0.2***	-0.2***	0	0
Education of hh head (%)								
Low/medium	omit	omit	omit	omit	omit	omit	omit	omit
High	-0.08***	-0.08***	-0.15***	-0.15***	-0.21***	-0.21***	-0.14***	-0.14***
Employed household head (%)								
Not Employed	omit	omit	omit	omit	omit	omit	omit	omit
Employed	0.17***	0.17***	0.03	0.02***	-0.04	-0.05***	-0.04	-0.04***
Decile (%)[1]								
0.0-0.1	omit	omit	omit	omit	omit	omit	omit	omit
0.1-0.2	-0.07***	-0.08***	-0.03	-0.04***	-0.04	-0.05***	-0.02	-0.02***
0.2-0.3	-0.09***	-0.1***	-0.08*	-0.08***	-0.15***	-0.16	-0.05	-0.05
0.3-0.4	-0.12***	-0.12***	-0.13***	-0.13***	-0.25***	-0.26***	-0.15***	-0.15
0.4-0.5	-0.14***	-0.13***	-0.15***	-0.15***	-0.38***	-0.38***	-0.29***	-0.29***
Transfer share[4]	0.0027***	0.003***	0.0018***	0.002***	0.0001	0***	-0.0004	0***

[1] All USD and CAD are inflation and PPP adjusted

[2] Statistical significance indicated by * 0.10 ** 0.05 ***0.01

[3] US data include 5 implicates; Stata mi estimate commands are used to estimate all US models

[4] Transfer share is multiplied by 100 to facilitate interpretation

Table A9. Margins from Linear Probability Model and Logistic Regression Models Predicting Financial Asset Poverty

	Canada				United States[3]			
	1999		2016		1998		Year 4	
Transfer Share (%)	LPM (1)	Logistic (2)	LPM (3)	Logistic (4)	LPM (5)	Logistic (6)	LPM (7)	Logistic (8)
5	0.67	0.67	0.61	0.60	0.67	0.67	0.78	0.77
10	0.68	0.68	0.61	0.62	0.67	0.67	0.77	0.77
15	0.69	0.70	0.62	0.63	0.67	0.67	0.77	0.77
20	0.71	0.72	0.63	0.64	0.67	0.67	0.77	0.77
25	0.72	0.73	0.64	0.65	0.67	0.67	0.77	0.76
30	0.74	0.74	0.65	0.66	0.67	0.67	0.77	0.76
35	0.75	0.76	0.66	0.67	0.67	0.67	0.76	0.76
40	0.76	0.77	0.67	0.68	0.67	0.67	0.76	0.76
45	0.78	0.78	0.68	0.69	0.67	0.67	0.76	0.75
50	0.79	0.80	0.69	0.70	0.67	0.67	0.76	0.75
55	0.80	0.81	0.70	0.71	0.68	0.67	0.76	0.75
60	0.82	0.82	0.71	0.72	0.68	0.67	0.75	0.75
65	0.83	0.83	0.72	0.73	0.68	0.67	0.75	0.74
70	0.85	0.84	0.72	0.74	0.68	0.67	0.75	0.74
75	0.86	0.85	0.73	0.75	0.68	0.67	0.75	0.74
80	0.87	0.86	0.74	0.76	0.68	0.68	0.75	0.74
85	0.89	0.87	0.75	0.77	0.68	0.68	0.74	0.73
90	0.90	0.88	0.76	0.77	0.68	0.68	0.74	0.73
95	0.91	0.89	0.77	0.78	0.68	0.68	0.74	0.73
100	0.93	0.89	0.78	0.79	0.68	0.68	0.74	0.73

[1] All USD and CAD are inflation and PPP adjusted

[2] US data include 5 implicates; Stata mi estimate commands are used to estimate all US models

Table A10. Predicted Probabilities from Within-Country Decomposition

	Canada		United States[2]	
Decomposition [3]	**LPM (1)**	**Logistic (2)**	**LPM (3)**	**Logistic (4)**
Year 1	0.74	0.74	0.67	0.67
Year 4	0.71	0.71	0.65	0.65

[1] All USD and CAD are inflation and PPP adjusted

[2] US data include 5 implicates

3 Predicted probabilities generated from logistic regression on Year 1 data, and application to Year 1 and Year 4, respectively.

Technical Narrative A1. Treatment of Multiple Implicates

All waves of the United States SCF data included multiple imputations that are designed to address (1) missing data and (2) protection of privacy. The SCF produces five implicate data sets for each observation. Prior analysis of SCF data has concluded that it is impossible to know whether the data was imputed to address missingness or privacy concerns (Lindamood et al., 2007). We followed standard procedures for using and analyzing multiply imputed data. To use the data, we imported in flong format. Descriptive statistics for the US were produced with a derived survey weight equal to dividing the survey weights by 5 as recommended in the SCF (Board of Governors of the US Federal Reserve, 2016). For all US-specific regression and decomposition procedures, Stata's mi estimate and mi predict commands were used, which apply Rubin's combination rules to obtain estimates and predictions. For some regression analyses we produced post-hoc predicted probabilities following a multi-step process to obtain marginal effects. Stata's mi estimate command, which is an eclass command, does not permit use of the margins command (an rclass command), and the LWS system does not accommodate the user-created mimrgns. Our process creates a program with eclass properties to enable margins estimation.

Technical Narrative A2. Sensitivity Tests

We explored three additional analyses to test the robustness of the main findings. First, we added a quadratic term for transfer share to the main regression models. The purpose was to test potential non-linearity between transfer share and asset poverty. The signs of the squared term indicated some degree of nonlinearity, with a positive coefficient suggesting a convex relationship (Canada) and a negative coefficient suggesting a concave relationship (United States). However, in the context of our ultimate objective (i.e., to decompose the influence of welfare state generosity across years and countries), we determined that the linear model would likely yield more conservative estimates, given inconsistent signs and significance of the squared term across countries. (see Table A5 in the Data Appendix for results). Second, we substituted a more detailed measure of household structure that accounts for both the presence of children and household arrangement. Similar to our base model, only one of the regressions (CA 1999) yields significant differences between single parents and other household types. Moreover, the overall decomposition results are no different. (see Table A6). Third, we pooled the data across years for each country and reran the regressions found in Table 5. The purpose of pooling was to study the substantive questions across all available data. Regression models included the same variables plus a dummy variable for year (time). (see Table A7). Overall we found the transfer share coefficients in both countries to be rather insensitive to whether or not time was included. Finally, we ran regression analyses for the main model using a logistic regression. (see Tables A8, A9 and A10). For these various sensitivity tests, coefficients maintained the same direction and were largely unchanged in magnitude compared to those presented and discussed for 2016 in Figure 3 in the main manuscript and Table A4 in the Data Appendix (statistically significant and positive relationship in Canada; negative but small magnitude and not statistically significant in the US).