

How Do the US and Canadian Social Safety Nets Compare for Women and Children?

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The past quarter-century has seen substantial change in the social safety nets for families with children in the United States and Canada. Both countries have moved away from cash welfare, but the United States has relied more on work requirements. We examine the implications for the employment and poverty of low-educated single mothers. We find that employment improved substantially in both countries, absolutely and relative to a control group of single women without children. Poverty rates also declined in both countries, with more of the decline coming through market income in the United States and benefit income in Canada.

I. Introduction

The past quarter-century has been a period of active policy reform in the social safety nets of both the United States and Canada. Perhaps more than any other area of social policy, programs in both countries aimed at low-

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income families and children have evolved from their pre-1990 form. In 1990 in the United States, federal cash welfare was an entitlement, the Earned Income Tax Credit (EITC) was a modest program, and there was no Child Tax Credit. Additionally, public health insurance for low-income families with children was largely limited to those receiving cash welfare. In Canada, there was no National Child Benefit (NCB), Canada Child Tax Benefit, or Working Income Tax Benefit, and most benefits took the form of cash welfare. Today, the US EITC and the Canadian NCB (and its successor, the Canada Child Benefit) provide the backbone of the social safety net for low-income families with children in both countries. These changes to the social safety net in the two countries have evolved in ways that are similar, and yet there are notable differences between programs that reflect distinctly different policy goals. The purpose of this paper is to examine this evolution across the two countries and to provide and review evidence on how the programs have fared in achieving their goals.

This paper focuses on single women of working age with children and the social safety net that is provided to this group. Changes in labor supply and poverty for men and for women without children over this period also provide for interesting study, and while these are not the subject of this paper, we do provide some evidence on the changes in employment and poverty for women without children as a comparison group. However, our focus is on single women with children for several reasons. First, as we describe below, the major changes in the social safety net over the past 25 years have focused on providing benefits to low-income families; less assistance is available, and less change has occurred, for single individuals. Second, a significant amount of research in the past two decades has focused on the relationship between these safety net programs and the labor market performance of women as well as the educational and health outcomes for children. Third, while many of the current programs and policies are aimed at children, independent of family structure, we focus on single mothers because of their greater disadvantage. Finally, while these programs have increased in generosity over the past 25 years, a good deal of poverty in both countries remains concentrated among this group.

Overall, we find that the introduction and evolution of the EITC and NCB have had positive effects on labor force attachment and poverty. Our findings suggest that employment for single mothers without a college degree has increased over this period in both countries and has caught up to employment for childless women. Employment for single women with and without children begins to decline in the United States in 2000, reflecting a lower-growth period in the US economy, followed by further declines in the Great Recession. These macroeconomic changes have not occurred in Canada. Consequently, our findings show that the post-2000 decline in single-mother employment is mirrored by employment declines for other groups, is explained by differences in the labor markets between the two

countries, and cannot be attributed to the social safety net. Based on our estimates of a pooled difference-in-differences model controlling for local labor market conditions, the relative changes in labor force participation for single mothers across the two countries are statistically indistinguishable.

Our evidence also suggests that poverty rates, measured both with after-tax-and-transfer income and with private income, have declined with the introduction of the EITC and the NCB. By the end of the period, the overall incidence of poverty, however, is lower in Canada than in the United States, reflecting the more generous system (and its stronger cash welfare system). While the effects of these policy changes on poverty for single mothers are qualitatively similar across the two countries, they also reflect the different policy choices. The US system, built on work requirements, leads to poverty improvements that reflect relatively more gains in market wages, while the Canadian system, mainly without work requirements and more universal, leads to poverty improvements more through the benefit system.

The remainder of the paper proceeds as follows. In Section II, we discuss the social safety nets in the two countries and document the major changes that have taken place over the past 25 years. In Section III, we briefly discuss the previous literature examining the effects of the EITC and the NCB on employment and poverty. In Section IV, we present trends for women with children based on tabulations from the Current Population Survey for the United States and the Survey of Labour and Income Dynamics for Canada. In Section V, we present estimates from a pooled difference-in-differences model comparing single women with children to single women without children in both Canada and the United States. By combining data from the two countries and controlling for the differing labor market conditions, we better identify what is driving differences in employment and poverty. We conclude in Section VI.

II. Major Changes in the Social Safety Net in the United States and Canada over the Past 25 Years

A. Changes in the United States

Over the past 25 years, the social safety net for families with children in the United States has changed dramatically. The main changes in the cash or near-cash benefits include a reduction in cash welfare (welfare reform), the expansion of the EITC, and the introduction and expansion of the Child Tax Credit.

Since 1935, a central feature in the US safety net for families with children was a cash welfare program known as Aid to Families with Dependent Children (AFDC). The program was means tested, requiring families to satisfy income and asset tests. The benefits were structured in a manner typical for income-support programs: if a family had no income, they received the maximum benefit (guarantee), and as earnings increased the benefit was re-

duced by the benefit reduction rate. States set the overall generosity of AFDC, by setting the maximum benefits. The benefit reduction rate was high—varying over time between 67% and 100%—providing strong disincentives for work (Moffitt 1983). AFDC provided an income floor, though a fairly low one: on the eve of welfare reform, the median state maximum benefit was 36% of poverty (US House of Representatives 1996).

Concerns about disincentive to work and form two-parent families led to the reform of the program. This began in the early 1990s, when about half of the states were granted waivers to modify their AFDC programs. After this, the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) was enacted in 1996, eliminating AFDC and replacing it with Temporary Assistance for Needy Families (TANF). The key elements of PRWORA include work requirements, lifetime limits on the duration of welfare receipt, financial sanctions for failing to adhere to the work requirements or other rules, and enhanced earnings disregards. The time limit (statutorily limited at 5 years but set as low as 2 years by some states) is an important provision in the law, in that it eliminated the entitlement nature of the program. The federal funding also changed from an (uncapped) matching formula under AFDC to a (capped nominal) block grant under TANF. Under TANF, states have enormous flexibility in how and on whom the block grant is spent. In 2014, on average, only 26% of the block grant is used for cash benefits, with about 10 states spending less than 10% of the block grant on cash (compared to nearly 100% for AFDC). In 2014, only 26 of every 100 families with children in poverty receives cash benefits, down from 72 of every 100 in 1996 (Bitler and Hoynes 2016b).

At the same time that out-of-work assistance (welfare) was contracting, in-work assistance through the EITC was expanding. The EITC began in 1975 as a modest program aimed at offsetting the social security payroll tax for low-income families with children. The EITC is refundable, so that a taxpayer with no federal tax liability receives a tax refund from the government for the full amount of the credit. Taxpayers receive the EITC as an annual payment as part of their federal taxes. Receipt of the EITC requires earned income, and at low levels of earnings the credit is a pure earnings subsidy. At higher levels of income, the credit is phased out. EITC generosity increases with number of children (capped at three or more children),¹ and a very small credit exists for individuals with no children. In 2017, a family with two children has a phase-in rate (earnings subsidy) of 40% for earnings up to \$14,040 (in nominal US dollars [USD]); beginning at \$18,340 the credit is phased out at a rate of 21.06%. The maximum benefit is \$5,616, and at \$45,007 a family earns enough to be ineligible for the credit

¹ Qualifying children must be under age 19 (or 24 if a full-time student) or permanently disabled and residing with the taxpayer for more than half the year.

(Tax Policy Center 2016a).² The EITC is based on joint income; married couples have the same phase-in rate, maximum benefit, and phaseout rate, but the phaseout region begins at a higher earnings level (\$5,550 higher in 2016).

Significant expansions to the EITC have taken place since 1990. In 1990 the credit was expanded, and in 1993 it was expanded more significantly. The 1993 law more than doubled the maximum credit for families with two or more children (from \$1,511 in 1993 to \$3,556 in 1996) and increased it by 50% for families with one child (from \$1,434 to \$2,152). The 1993 law also introduced a very small credit for taxpayers without children (in 2017, a maximum credit of \$510, compared to \$3,400 for those with one child). In 2009, as part of the American Recovery and Reinvestment Act, the separate schedule for families with three or more children was added. The EITC is received by 28 million tax-filing units, almost 20% of all tax filers, and 44% of filers with children receive the EITC (US Internal Revenue Service 2016).³

The Child Tax Credit (CTC) was introduced in 1997. It is structurally similar to the EITC but more universal in design and less targeted on lower-income families. As of tax year 2017, the maximum credit is \$1,000 per child of less than 17. The phase-in rate is 15%; with a very large flat zone for the credit and a low phaseout rate (5%), the credit extends to families with incomes as high as \$150,000 for married couples (\$115,000 for singles) with two children. Unlike the EITC, the CTC is not inflation adjusted; the nominal maximum credit has been unchanged at \$1,000 per child since 2003.

The CTC, unlike the EITC, is not fully refundable. The refundable portion of the CTC is known as the Additional Child Tax Credit (ACTC) and is limited to 15% of earned income above a fixed threshold. This threshold was \$11,750 (in nominal USD) in 2007, preventing most low-income families from receiving meaningful CTCs. But in 2009, the American Recovery and Reinvestment Act reduced the threshold to \$3,000 (again nominal). This allowed more taxpayers to claim the ACTC and increased the amount of refundable credits, making the low-income portion of the schedule more similar to the EITC.

In addition to the cash or near-cash safety net, the two more important in-kind programs for low-income families with children are food stamps

² In 2017, the parameters for other groups are as follows: for families with one child (three or more children), the phase-in rate is 34% (45%), the maximum credit is \$3,400 (\$6,318), and the phaseout range is from \$18,340 to \$39,617 (\$18,340–\$48,340); for taxpayers without children, the subsidy rate is 7.65%, maximum credit is \$510, and the credit is phased out between \$8,340 and \$15,010.

³ The EITC is federal, but states can and do include EITCs as part of the state income tax system. As of 2016, 26 states offer state EITCs (CBPP 2016), though they tend to be small add-ons to the federal credit, averaging around 15%–20% of the federal credit (Tax Policy Center 2016b).

and Medicaid. Food stamps, now known as Supplemental Assistance for Needy Families, or SNAP, is a means-tested program, and benefits are based on a maximum benefit level that is reduced with additional earnings at a benefit reduction, or phaseout, rate. While the eligibility and benefits are like cash welfare, SNAP is a voucher that can be spent on (most) food items in the grocery store. Benefits are adjusted for changes in prices each year. It is federal and has little variation and little scope for rule setting by states. The benefit reduction rate for SNAP is relatively low for a welfare program (30%), and the gross income eligibility threshold is higher (at 130% of poverty) than those for other US cash welfare programs; thus, the program serves the working and nonworking poor.⁴ It has largely remained unreformed during this time period.

While not the focus of our analysis, another important change during this period is the expansion of public health insurance for low- to moderate-income children. This began with expansions to Medicaid (between 1986 and 1990), followed by the introduction of and expansions to the State Children's Health Insurance Program (introduced in 1997, expanded in the 2000s) and most recently the Affordable Care Act of 2010. The result is a dramatic decline in the share of children who are uninsured—from 13% in 1990 to 6% in 2015 (Child Trends Data Bank 2016).⁵

B. Changes in Canada

The structure of the social safety net for families with children in Canada also changed significantly since the early 1990s. Most significantly, in 1993 Canada introduced the Canada Child Tax Benefit (CCTB), a refundable tax credit (replacing the former child tax credit [refundable and nonrefundable] and family allowance) payable to families with children up to 17 years old. The benefit is paid monthly from July to June, based on reported income in the previous tax year. The benefit increased with the number of children. Importantly, there was no work requirement to receive the benefit (thus, those with and without earned income received the benefit). As of 2014–15, the benefit phased out for family net income over \$43,953 (nominal Ca-

⁴ Welfare reform left food stamp rules relatively unaffected. However, beginning with regulatory changes in 1999 and continuing with the 2002 Farm Bill, the US Department of Agriculture has allowed states to make changes in how they implement the program's rules to facilitate obtaining access to benefits. This has led to a relaxation of asset requirements and expanded gross income eligibility in what has been called broad-based categorical eligibility (US Government Accountability Office 2007).

⁵ The period has also seen a steady decline in real value of the federal minimum wage. The current rate of \$7.25 has been fixed in nominal terms since 2009. In the recent period, there have been many cities and states that are setting and expanding local minimum wages above the (low) federal rate. This is not an element of the social safety net per se but is highly relevant for a social safety net built around work.

nadian dollars [CAD]) at a rate of 2% for one child and 4% for two or more children. In 1998, Canada added the NCB supplement to the CCTB, aimed, in part, at assisting parents in transitioning from welfare to work. The benefit, based on the number of children, is paid in addition to the CCTB, and for net incomes over \$25,584 (in 2014–15) it phased out more sharply, at rates of 12.2% for one child, 23.0% for the second child, and 33.3% for the third. The NCB was a joint federal-provincial program, and provinces could, at their discretion, subtract NCB payments from their welfare programs and use the recovered funds for other social programs. For provinces that did so (Alberta, Manitoba, Nova Scotia, Ontario, and Prince Edward Island), the transition from welfare to work was eased, as beneficiaries were able to keep more of their benefits as they entered the workforce, since the CCTB/NCB benefits phase out at higher earnings and less steeply than cash welfare. Milligan and Stabile (2007) find that the result of the clawback was that single mothers were in fact less likely to be solely on welfare and more likely to claim employment income as their major source of earnings. Most provinces ended the clawback practice in the first decade of the 2000s, with the last two provinces (Alberta and Nova Scotia) keeping it until the end of the program.

In 2006, the Canadian government added a Universal Child Care Benefit (UCCB) of \$100 per month for each child under age 6. Unlike the CCTB, this benefit was taxable and was paid together with the CCTB and NCB. In 2007, Canada also added a Working Income Tax Benefit (WITB), similar in structure to the EITC in that it supplements earned income. While it is quite small in comparison to the NCB (maxing out at \$1,015 in 2015), it is available to low-income earners (regardless of whether they have children or not), and, like the CCTB and NCB, the amount payable has increased over time. It is paid separately (quarterly from other benefits). At the federal level, there are a few additional tax credits that are still available to families (the federal dependent children tax credit and related credits).

Finally, as of July 2016, the government of Canada introduced the new Canada Child Benefit (CCB) to replace the existing child benefit programs (the combined CCTB, NCB, and UCCB). The new CCB is \$6,400 (tax free, unlike the UCCB) for each child up to age 5 and \$5,400 for each child ages 6–17. The benefit is phased out starting at \$30,000, with a second kink point at \$65,000 in family net income. The phaseout rate depends on the number of children.⁶ The benefit is paid monthly, starting in July of each year. Given

⁶ The reduction is calculated as follows. For families with one eligible child, the reduction is 7% of the amount of adjusted family net income (AFNI) between \$30,000 and \$65,000, plus 3.2% of the amount of AFNI over \$65,000. For families with two eligible children, the reduction is 13.5% of the amount of AFNI between \$30,000 and \$65,000, plus 5.7% of the amount of AFNI over \$65,000. For families with three eligible children, the reduction is 19% of the amount of AFNI between \$30,000 and \$65,000, plus 8% of the amount of AFNI over \$65,000. For families

how new this change is, we note the new program here, but it is not included in our empirical analysis below.

The provinces also offer a variety of supports for low-income families, including both welfare programs and cash-benefit income programs (e.g., Ontario offers the Ontario Child Benefit, similar in design to the NCB, which we include in our hypothetical budget constraint below). Instead of describing these programs in detail here, we list the major provincial benefit programs in appendix A (apps. A and B are available online). In general, programs have evolved in a number of provinces alongside the federal benefits, toward families with children and away from single individuals, although (smaller) welfare programs do remain.

Overall, Canada's social safety net has evolved over the past two decades toward providing more resources for families with children. In some cases, these have replaced some of the support that was previously available through social assistance/welfare programs for families in the provinces. Traditional welfare benefits, on the other hand, remain the primary source of support for individuals without children. Notably, the new family benefits do not require labor market income to qualify (with the exception of the WITB, which makes up a fairly small portion of the overall support). Finally, the programs work to reduce the welfare wall that exists in most social security programs with a gradual phaseout of benefits with earned income of approximately \$15,000, particularly in those provinces that integrate increased family benefits with declining welfare benefits.

C. Comparing the Sources of Support in Canada and the United States

To summarize these programs, figure 1A plots real per capita expenditures since 1990 for AFDC/TANF, the EITC, the CTC, and SNAP. Since welfare reform, cash welfare (TANF) has declined dramatically. The EITC, on the other hand, has increased substantially. The CTC has expanded recently, and spending has almost reached the levels of the EITC and SNAP.

While we are unable to report per capita expenditure by program in Canada, we report aggregate per capita spending (including federal, provincial, and local government spending) over time in Canada in figure 1B. While there was an initial decline in per capita social spending through the mid-1990s (Canada went through a major deficit reduction exercise during this period, beginning in 1995), it was followed by an increase in spending to almost pre-1994 levels over the 2000s, in part generated by the introduction of new federal programs and increased generosity of the NCB over this period.

with four or more eligible children, the reduction is 23% of the amount of AFNI between \$30,000 and \$65,000, plus 9.5% of the amount of AFNI over \$65,000.

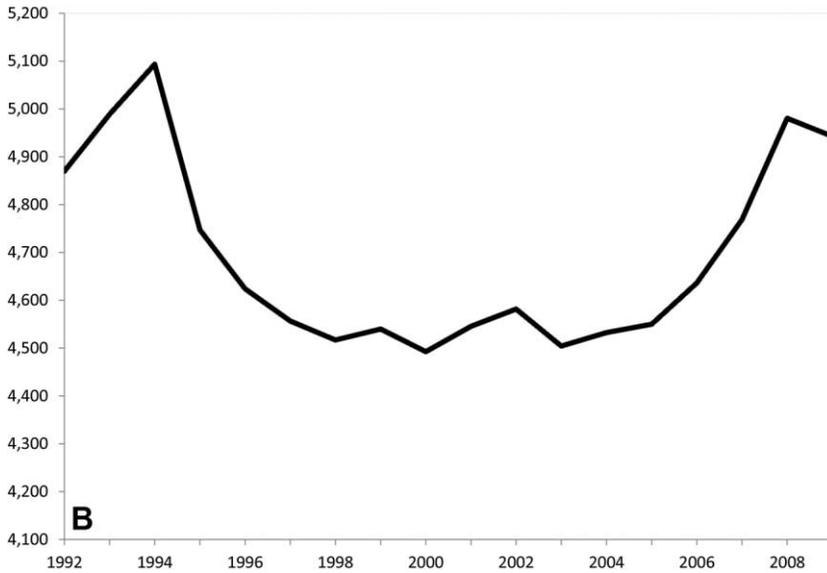
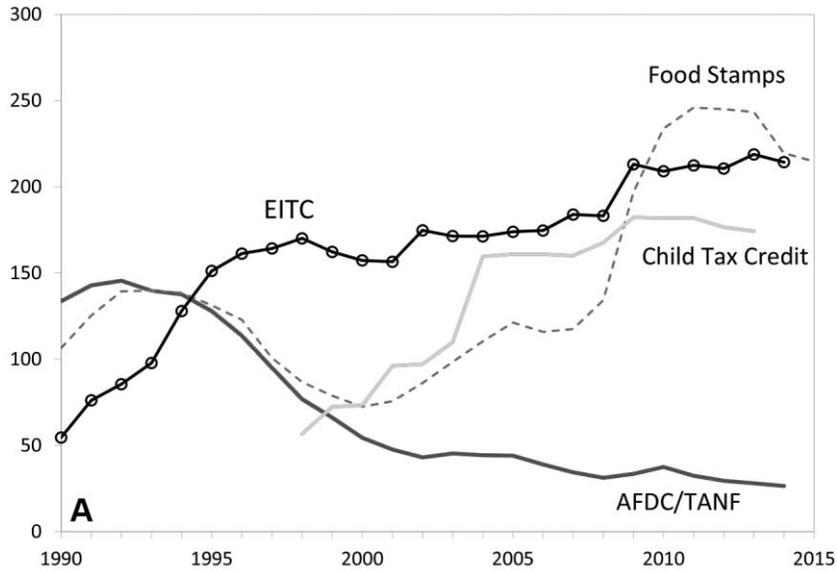


FIG. 1.—Real per capita spending on key safety net programs in the United States (A) and Canada (B). A, Total expenditures from the Internal Revenue Service (EITC and CTC), the Department of Agriculture (Food Stamps), and the Department of Health and Human Services (AFDC/TANF). All values are in 2014 USD, adjusted by the CPI-U (CPI for all urban consumers) divided by the total population. B, Social service spending from federal, provincial, territorial, and local governments (Statistics Canada). All values are in 2014 CAD, adjusted by the CPI and divided by the total population. A color version of this figure is available online.

Figures 2 and 3 show the cash and near-cash sources of support for hypothetical families in the United States and Canada. For each country, we consider a single mother with two children and simulate the benefits for a range of annual earnings; all benefits amounts and earnings are in 2015 CAD or USD.⁷ These figures show only positive elements of the tax and transfer system (i.e., do not include payroll taxes or income taxes paid).⁸ We include only social safety net programs that are near-cash (e.g., this excludes public health insurance) and those that are entitlements. Critically, this means excluding housing and child care benefits, which can be relatively large for those who receive them.

Beginning with the United States, we present the budget constraints for 1992 (fig. 2A) and 2015 (fig. 2B) for a single mother with two children living in Colorado. In 1992, welfare is still an entitlement, the EITC has not been expanded, and the CTC has yet to be introduced. Comparing the budget constraints in 1992 and 2015, we see striking evidence of the shift in resources away from out-of-work to in-work. For example, in 1992 a single mother with two children who is not working receives \$12,600 (2015 USD) in assistance (AFDC plus SNAP); this falls by half, to \$6,132 (2015 USD), in 2015. In 2015, if the woman works full-time at the federal minimum wage (of \$7.25), she would earn about \$15,000. Benefits for this minimum wage full-time worker rise from about \$5,206 in 1992 to \$11,600 (both in 2015 USD). This is a striking change. Also clear in these budget constraints are the high implied tax rates faced by very low-earning women in 1992, in contrast to the negative tax rates for the same women in 2015.

The Canadian budget constraints illustrate the programs available for a single-parent family with two children in the province of Ontario. In 1992 (fig. 3A), the major source of support was welfare provided through the provinces. Federal support came through a series of small tax credits. By 2015 (fig. 3B), welfare (labeled “Ontario Works”) plays a much smaller role in the total support available, focused mainly on those with very low incomes. Instead, the CCTB (taking the place of the largest of the 1992 credits), the NCB, the WITB, and the UCCB provide considerable support for a much larger share of the population. The structure of benefits changes significantly over this period. Ontario Works, like most cash welfare programs, provides out-of-work benefits that are phased out sharply even at the lowest earnings levels. In contrast, the CCTB and NCB phase out more slowly, and the phaseout begins at much higher earnings levels (more than

⁷ For the US calculations, we assume that the household spends \$6,000 per year on child care and \$8,400 per year on housing and that the children are aged 4 and 6. For Canada, we assume two children under the age of 18 living in Ontario.

⁸ In the United States in 2015, a single parent with two children would begin to pay federal taxes at a little over \$20,000 USD in earnings. Payroll taxes are paid on the first dollar of earnings. In Canada, a single parent with two children would begin to pay federal taxes at a little over \$22,600 CAD.

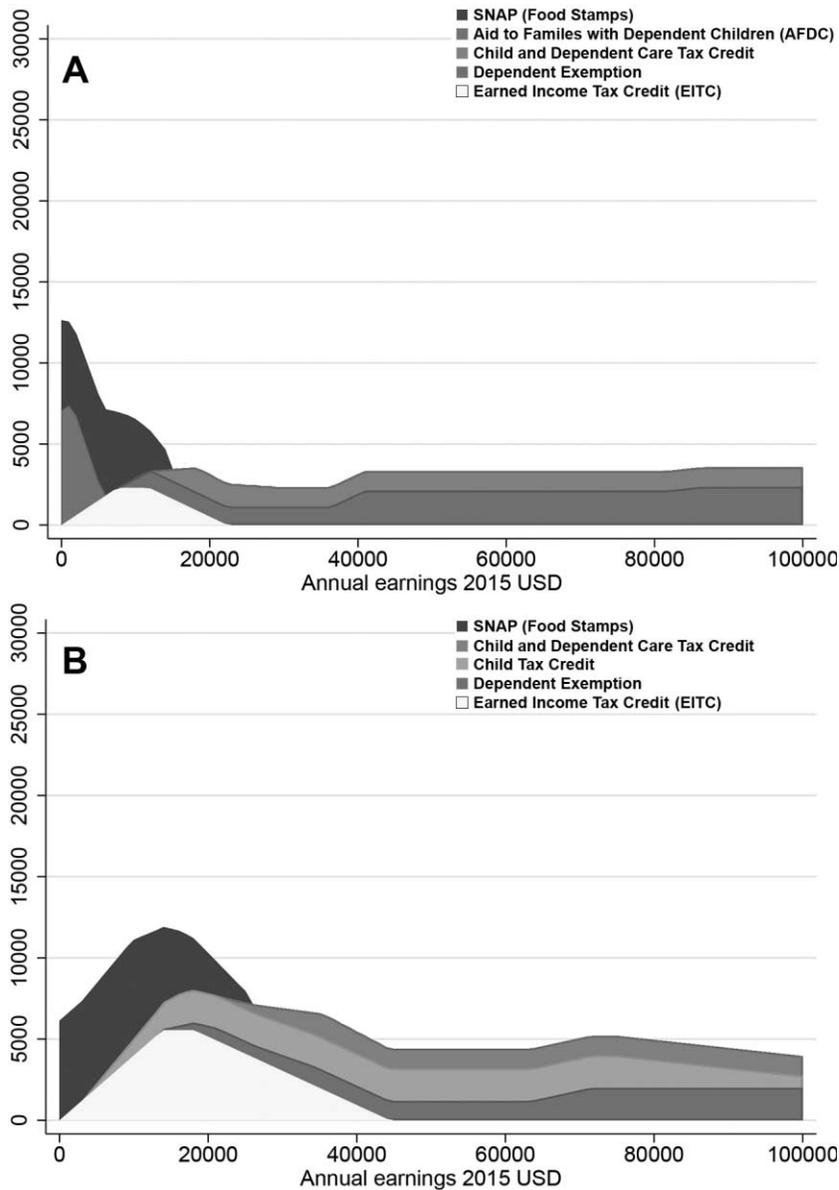


FIG. 2.—US budget constraints, cash and near-cash universal programs. Estimated value of tax and transfer benefits for a single parent with two children living in Colorado in 1992 (*A*) and 2015 (*B*), in 2015 USD. Program parameters are from the Internal Revenue Service and the Tax Policy Center (EITC, CTC, Dependent Exemption, Child and Dependent Care Tax Credit) and the Ways and Means Green Book and the Department of Agriculture (SNAP). Based on data from Steuerle and Quakenbush (2015). A color version of this figure is available online.

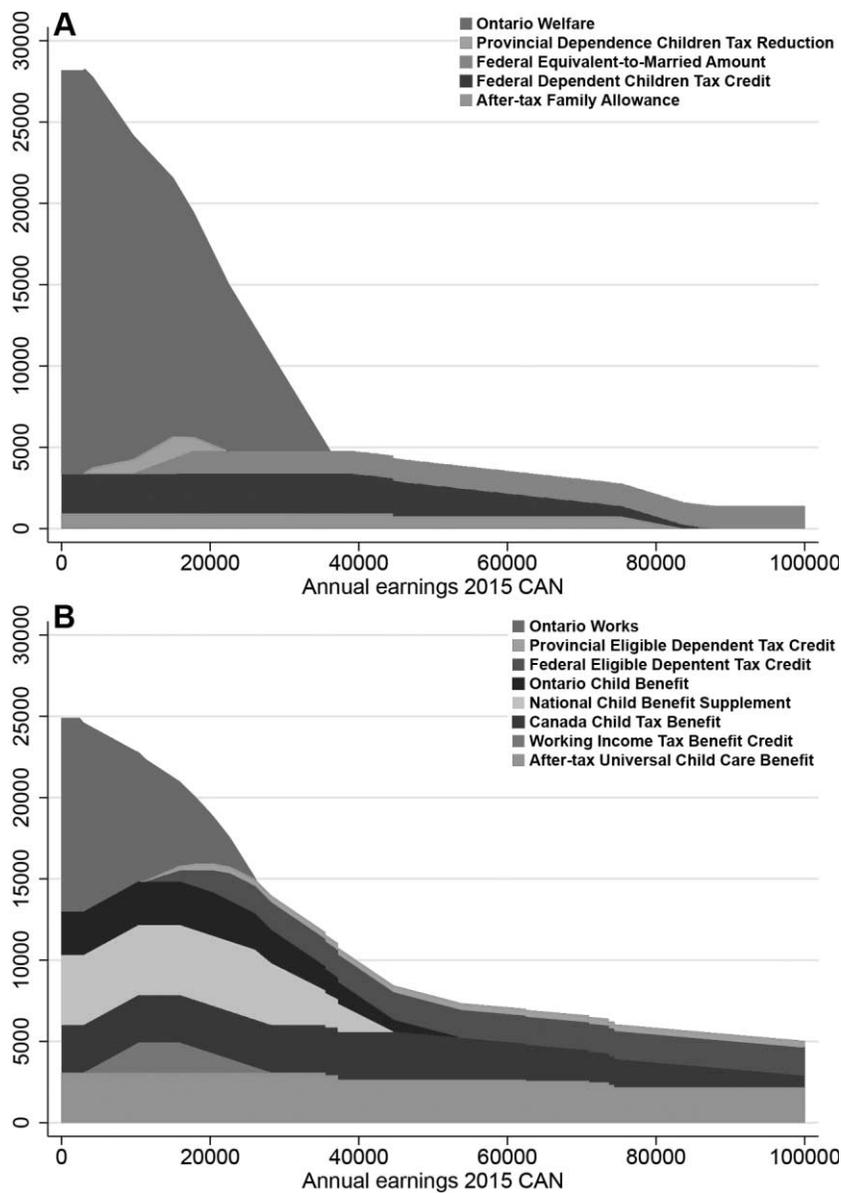


FIG. 3.—Canada budget constraints, cash, and near-cash universal programs. Estimated value of major tax and transfer programs for a single-parent family with two children in the province of Ontario in 1992 (A) and 2015 (B), in real (2015) CAD. Program parameters are from the Department of Finance, Canada, and the Ontario Ministry of Finance. A color version of this figure is available online.

\$20,000). In contrast to the EITC, the CCTB and NCB are also available to those out of work. The WITB phases in with earned income, like the EITC, and the UCCB is universal. A child benefit in Ontario supplements the federal child benefits, operating in much the same fashion as the NCB.

Overall, several features stand out in these figures. First, there have been significant changes in policy design in both countries over the past few decades. The nature of support, the conditions required, and the generosity have all changed in both countries.

Second, for families with children, both countries have moved away from the welfare-based out-of-work benefit system with high phaseout rates that dominated both countries in 1992. Figures 2A and 3A show that in 1992, welfare was the main source of support in Canada (e.g., Ontario Works) and the United States (e.g., AFDC plus SNAP). Benefit levels were higher in Canada, but both countries targeted the nonworking poor, and high phaseout rates would be expected to discourage work. Both countries have introduced programs that move away from pure out-of-work assistance. In the United States, the EITC provides strong incentives to enter work (and cash welfare was substantially reduced), and Canada implemented a small, EITC-like in-work credit (the WITB), thereby lessening the work disincentives of a welfare-based support system.

Third, benefits in Canada start with universal (or near-universal) child supports that are not tied to work. This includes the UCCB, the NCB supplement, and the CCTB as well as the provincial versions of these programs. However, in contrast to cash welfare, the child supports have lower phaseout rates that begin at higher earnings levels. The combined effect is to encourage work relative to before these programs were implemented. In contrast, the United States is almost entirely based on a system of benefits tied to work; the EITC and the child-related tax credits all require wage income in order to qualify, and over the range that affects the poorest families, benefits increase as wage income increases. The incentives to work embedded in the EITC are therefore stronger than those in Canada. After welfare reform, SNAP is the only source of out-of-work assistance, and thus while in-work benefits have expanded, the basic income floor has decreased. We consider the difference in work requirements across the two countries one difference that may matter.

Fourth, the level of generosity between the two sets of programs is quite different. In both 1992 and 2015, Canada provides more support to low-income families. For example, in 1992, the maximum benefit in the United States (e.g., that received if not working), including cash and near-cash benefits such as food stamps (fig. 2A), was approximately \$13,000 (2015 USD). This fell to a little over \$6,000 (2015 USD) in 2015 (fig. 2B), primarily as a result of the reform of cash welfare. The maximum cash benefit in Canada in 1992 is about \$27,000 (2015 CAD) and fell to about \$25,000 (2015 CAD) in 2015. Purchasing-power parity (PPP) across the two countries over much

of this period is approximately 1.22, although the exchange rate fluctuated considerably (World Bank 2017). At an earnings level of \$20,000 in 2015, benefits are about \$20,000 in Canada, compared to \$12,000 in the United States. Thus, clearly Canada provides a much higher level of support, particularly so for those at very low or zero earnings. The difference in the generosity of the social safety net is a second difference that may matter.

We include similar budget constraints for childless adults for both countries in appendix figures 1 and 2. What is immediately evident is that the range of benefits available for these individuals is considerably more limited in both countries. In Canada, the available benefits are welfare benefits and the small WITB. In the United States, benefits for childless individuals are SNAP and a small EITC. The Canadian out-of-work benefits are more generous—the maximum benefit for a single person is \$7,872 in 2015 in Ontario (the benefits are at the provincial level), compared to \$2,000 in the United States.

In order to understand how these changes in benefits, coupled with income taxes, have affected the incentives to work in the two countries, we calculate the average tax rate (ATR) imposed by moving (1) from no work to part-time work, (2) from no work to full-time work, and (3) from part-time work to full-time work (these can also be thought of as participation tax rates, as they are explicitly capturing the tax rate on the decision to work). The ATRs are calculated on the basis of all of the benefits modeled in the budget constraints above as well as ordinary income taxes. We calculate ATRs for single women with two children (as in the budget sets above). We use the nominal minimum wage in each country in 2015⁹ and the real value of that wage in 1992 as a representative wage, along with 125%, 150%, and 200% of the minimum wage, and consider part-time work to be 20 hours per week and full-time work to be 40 hours per week. The results are reported in table 1. Panel A presents the ATRs for the United States in 1992 and 2015. The difference in the US ATRs between 1992 and 2015 is striking. Whereas tax rates were almost always above 50% for individuals moving from no work to work or from part-time to full-time work in 1992, by 2015 they were negative for moving to part-time work in all four wage categories and remained significantly smaller for movements into full-time work. For example, a single mother with two children working at 150% of the minimum wage faces a -9% ATR for entering full-time work in 2015, compared to 53% in 1992. For moving from part- to full-time work, the ATR has fallen from 45% to 26%. Overall, the incentives to work in the United States have risen dramatically over this period for single mothers in the United States.

The ATRs also declined across all wage and work levels in Canada (panel B of table 1). For example, a single mother with two children working at 150%

⁹ This amounts to \$7.25 USD in the United States and \$11 CAD in Canada.

Table 1
Average Tax Rates (Percent) from No Work to Part-Time and Full-Time Work: Single Mother, Two Children

Hourly wage/ minimum wage	1992			2015		
	0→PT	0→FT	PT→FT	0→PT	0→FT	PT→FT
A. United States						
100%	64	53	42	-46	-34	-22
125%	68	51	35	-47	-20	6
150%	60	53	45	-43	-9	26
200%	53	52	51	-34	1	35
B. Canada						
100%	42	67	93	23	34	46
125%	43	71	99	24	45	65
150%	51	74	97	26	46	65
200%	67	81	95	34	59	83

NOTE.—Part-time (PT) is defined as working 20 hours a week, 52 weeks a year. Full-time (FT) is defined as working 40 hours a week, 52 weeks a year. Each cell shows the participation tax rate on cash and near-cash universal state/provincial and federal transfers for a hypothetical single mother with two children moving from out of work into employment with wages equivalent to the 2015 minimum wage (adjusted for inflation with the CPI for all urban consumers). For the United States, this example illustrates scenarios faced by a single mother of two children ages 4 and 6 living in Colorado. For Canada, this example illustrates scenarios for a single mother with two children younger than 18 living in Ontario. See text for details.

of the minimum wage faces a 46% ATR for entering full-time work in 2015, compared to 74% in 1992. For moving from part-time to full-time work, the ATR has fallen from 97% to 65%. This is a significant decline in ATRs in Canada, which, given the cumulative phaseout of welfare and provincial benefits, could approach 100% in 1992. However, compared to those in the United States, the ATRs remain high—ATRs for moving from not working to part- or full-time work range from a low of 23% to as high as 59%.¹⁰ The differences between Canada and the United States reflect the fact that, with the exception of the WITB, most of the benefits in Canada are at their maximum at zero income, and while the phaseout of the child benefits does not occur with the first dollar of earnings, an individual working full-time at minimum wage is well into the phaseout range. Appendix table 1 shows the ATRs for single women without children; it is evident that work disincentives for this group have not changed much over time and remain quite high (in an absolute sense and compared to those for single women with children).

Our budget set and tax rate analysis suggests several predictions for the trends in employment and poverty across the two countries. The changes in the social safety net should lead to increases in employment for single women with children, relative to single women without children, in both

¹⁰ By 2015, Ontario had ended the clawback of welfare benefits from the NCB. Ignoring changes in income tax rates, the change in ATRs would have been even larger over some ranges had the clawback remained in place.

the United States and Canada. All else equal, employment should rise by more in the United States than in Canada, given the greater decline in ATR. Poverty should decline in both countries, though the US decline should reflect more heavily gains in market income (because of the work requirement) while the Canadian decline should reflect more heavily gains in benefits (because of the universality of benefits). All else equal, we would also expect that the absolute level of poverty rates would be higher in the United States than in Canada, given the higher level of support in Canada (throughout the period). Additionally, we expect deep poverty (those with income less than 50% of the poverty line) to have risen in the United States relative to Canada, given the reduction in out-of-work support after welfare reform.¹¹

III. Previous Literature

There is a substantial amount of evidence about the effects of the US EITC and the Canadian NCB on family and child well-being over the past two decades, and we discuss only some highlights of it here. For more comprehensive reviews of the effects of the changes in the social safety net, see studies on welfare reform (e.g., Blank 2001, 2002; Moffitt 2003; Grogger and Karoly 2005; Ziliak 2016) and the EITC (Hotz and Scholz 2003; Eissa and Hoynes 2006; Nichols and Rothstein 2016; Hoynes and Rothstein 2017). In particular, studies show that the EITC leads to substantial increases in employment for single mothers (e.g., Eissa and Liebman 1996; Meyer and Rosenbaum 2000, 2001; Hoynes and Patel 2018), with little evidence that existing workers reduce hours worked.¹² Many of these studies use a difference-in-differences approach comparing single women with children to women without children (who are eligible only for a very small EITC) in periods before and after an expansion in the EITC. The magnitudes are large—for example, Meyer and Rosenbaum (2001) find that the EITC raised labor force participation by 7.2 percentage points for single women with children relative to those without children between 1984 and 1996. Hoynes and Patel (2018) find that the 1993 expansion increased employment of single mothers with less than a college degree by 6.1 percentage points.¹³

¹¹ A final difference that is not evident in the figures but potentially affects the effectiveness of the social safety net is how benefits are paid to recipients. In Canada, the CCTB, NCB, and UCCB are all paid monthly. The WITB is paid quarterly. In the United States, the EITC and the CTC are paid annually (food stamps are paid monthly).

¹² Some studies show that self-employed workers adjust to maximize the credit along the phase-in region (Saez 2010; Chetty, Friedman, and Saez 2013; Chetty and Saez 2013).

¹³ Eissa and Liebman (1996) examine the earlier 1986 expansion of the EITC and find that labor force participation increased by 2.8 percentage points for single women with children, relative to single women without children.

Milligan and Stabile (2007) investigate the effect of the introduction of the Canadian NCB, and the ability of provinces to choose to subtract NCB payments from social assistance/welfare, on the labor force participation of single mothers. Their findings suggest substantial labor market effects from the integration of benefits and social assistance. A \$1,000 increase in benefits deducted from social assistance payments is associated with a 3–4 percentage point decline in social assistance take-up and an equivalent 3–4 percentage point increase in employment. The effects are concentrated on the extensive margin of labor force participation.

A handful of studies have estimated the effect of the EITC on poverty. Hoynes and Patel (2018) use a difference-in-differences approach and find that the 1993 EITC expansion led to a 7.9 percentage point reduction in poverty. Their finding suggests that ignoring the indirect effects of the EITC (increased earnings net of changes in other income) leads to an underestimate—by as much as a 50%—of the antipoverty effects of the EITC. Earlier studies examined the effect of state EITC supplements on poverty (Neumark and Wascher 2001; Gundersen and Ziliak 2004), finding qualitatively similar effects.

IV. Trends in Demographics, Employment, and Poverty

In this section, we examine the trends across the United States and Canada in demographics, female employment, and absolute poverty. Our analysis uses data from the US Current Population Survey (CPS) and the Canadian Survey of Labour and Income Dynamics, where we have harmonized the sample, data, and variables to maximize comparability across the two countries. To focus on the working-age population, for both countries we limit our analysis to women aged 25–54. Because of our interest in the social safety net and the disadvantaged, our core sample is single women who have less than a college degree.¹⁴ To highlight the trends for single mothers, we compare trends across two groups: single women with children and single women without children. We use a time period that spans the major changes in the social safety net that we describe above, though the exact years differ somewhat across the two surveys. We briefly describe the two surveys below; for more details on our data and variable construction, see appendix B.

For the US analysis, we use the Annual Social and Economic Supplement to the CPS (CPS-ASEC), administered to most households in March every year. The CPS-ASEC is an annual survey of about 90,000 households (or about 175,000 persons) that collects labor market, income, and program participation information for individuals for the previous calendar year as

¹⁴ This includes those with less than a high school degree, those with a high school degree or GED, and those who have some college but less than a 4-year degree.

well as demographic information at the time of the survey. Our sample uses the 1991–2012 CPS-ASEC surveys, corresponding to the 1990–2011 calendar years. Employment is measured as having any work during the calendar year. We measure income and poverty at the household level, after dropping unrelated children (as does the Census Bureau). Our analysis is weighted with the March supplement person weight.¹⁵

For the Canadian analysis, we use the Survey of Labour and Income Dynamics (SLID). The SLID is conducted annually by Statistics Canada with a stratified random sampling of Canadians. As with the CPS, with survey weights, the data are nationally representative. Our analysis uses public-use cross-sectional individual and census family files providing data for calendar years 1996–2011.¹⁶ The SLID provides information on income and benefits received over the past year and detailed information on demographics at the time of the interview. The survey consists of approximately 55,000 people per year; our sample of women aged 25–54 results in a sample of approximately 16,000 per year (considerably smaller than the corresponding sample in the CPS).

For the purpose of the Canadian analysis, we treat individuals as married if they report being either married or common-law married and as single otherwise, since Canadian law treats common-law cohabitation as equivalent to marriage for benefit purposes.¹⁷ As this is different from the assignment of marriage in the US (where the definition is legal marriage), we also experiment with different definitions of “married” for US mothers to examine whether aligning the definition of marriage/cohabitation across countries alters our results. We use two alternate definitions: a more and a less conservative assignment of cohabitation as married. First, we identify unmarried women with children who are coresiding with the father of one of the children or are identified in the CPS as unmarried partners/cohabitators (following the definitions in Kennedy and Fitch 2012) and treat these women as married/cohabitating rather than unmarried. Second, we identify unmarried women with children who are coresiding with a man who is within 5 years of age of the women and does not appear to be related

¹⁵ Meyer, Mok, and Sullivan (2009) document that there is extensive underreporting of benefit program receipt in the CPS (and other household surveys). This leads to overestimates of poverty rates and underestimates of the antipoverty effects of the social safety net.

¹⁶ The SLID replaced the Survey of Consumer Finances (SCF) as the major cross-sectional survey for labor market data as of 1996. Using previous years of the SCF or the longitudinal SLID files that exist for the SLID in 1993 and 1994 produces inconsistent samples because of questionnaire changes and collection and weighting changes that made results from previous years misleading. Therefore, we begin the Canadian data series in 1996.

¹⁷ In order to be considered common-law partners in Canada, couples need to have lived together for 12 consecutive months, after which the government considers the partner in the calculation of taxes and benefits owed.

to her or are identified in the CPS as unmarried partners/cohabitators; we then categorize these women as married/cohabitating.

A. Trends in Demographics

We begin by examining trends in the demographics underlying our sample of single women with children. Figure 4 presents the share of women 25–54 with less than a college education who are single with children in the US and Canadian samples. Both countries experienced increases in single parenthood, though the rate is much higher in the United States. The share who are single mothers in the United States rose from 17% in 1990 to 23% by the end of the period for those with less than a college degree. The share who are single mothers in Canada (among those with less than a college degree) rose from just over 11% in 1996 to 13% by the end of the period. The increase after 2000 in the United States is larger than that in Canada. Appendix figure 3 presents the trends for the two alternative definitions of marriage/cohabitation in the United States. Alternative definition 1 (excluding from single those living with a father of their child or reported as cohabitating/unmarried partners) closes the US-Canadian gap to some extent and also leads to post-2000 trends that are more comparable be-

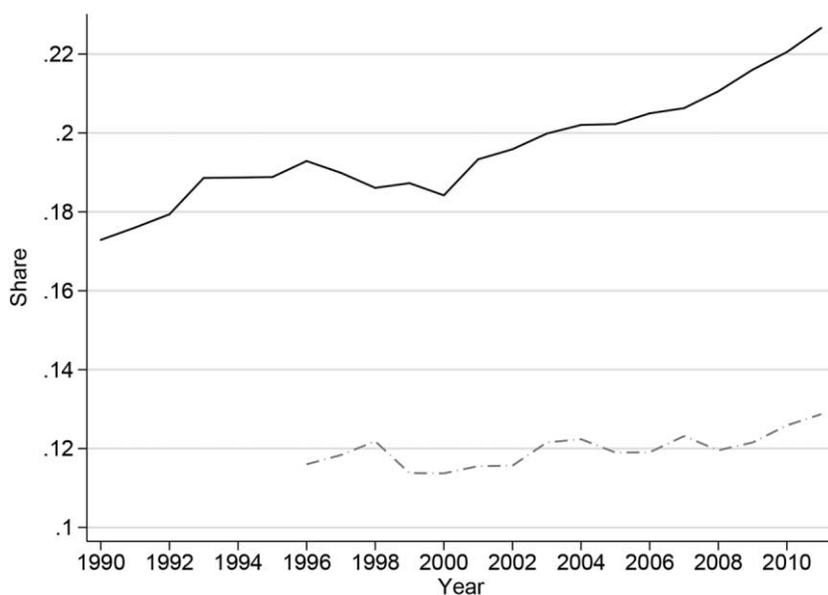


FIG. 4.—Share of single women aged 25–54 with children and no college in the United States (solid line) and Canada (dashed line). “No college” is defined as less than a 4-year degree. Data are from the CPS-ASEC (United States) and the SLID (Canada). A color version of this figure is available online.

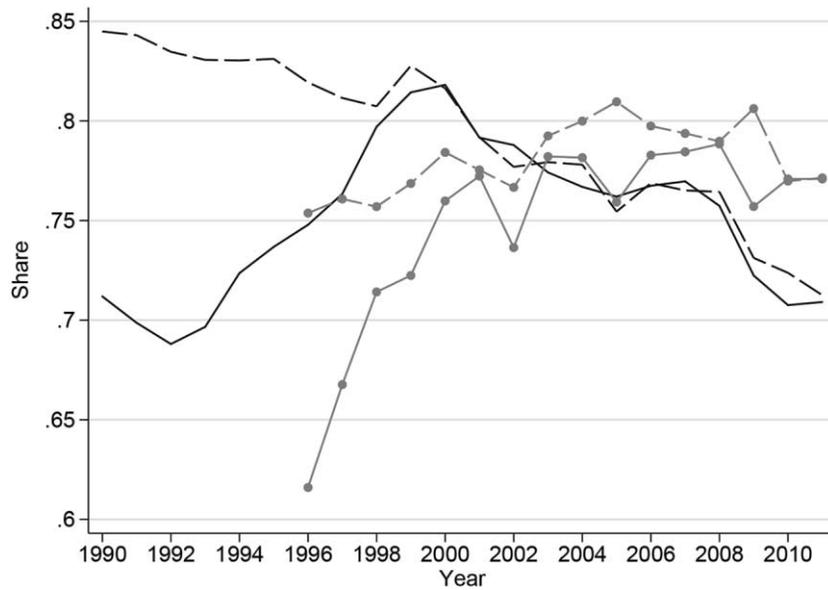


FIG. 5.—Share of single women aged 25–54 with no college working. “No college” is defined as less than a 4-year degree. Women are considered working if they worked at least 1 week in the previous year. Solid and dashed lines are for women with and without children, respectively; plain lines are for the United States, lines with dots are for Canada. Data are from the CPS-ASEC (United States) and the SLID (Canada). A color version of this figure is available online.

tween the two countries. Still, a significant difference remains in the incidence of single parenthood between the United States and Canada.¹⁸

B. Trends in Employment

In figure 5, we plot the share of women 25–54 with less than a college degree who worked at all during the calendar year. For each country, we show the share working for single women with and without children; the figure pools this for both countries. While our focus is on single women with children, we include women without children to highlight the changes occurring for single mothers.

¹⁸ Given the differing incidence of single parenthood between the two countries, it is interesting to know how the level of relative disadvantage varies between single mothers in the United States and single mothers in Canada. Appendix fig. 4 pools data for 1996–2010 and plots a histogram of the within-country income percentile (in equalized terms, with percentiles assigned within each country-year) for the two samples. The results show that while there are more US single mothers at the very lowest percentiles, the Canadian sample is more concentrated in the lower percentiles (5th–15th), and more US single mothers are in the middle-income percentiles.

In the United States, employment for non-college-graduate single mothers increased sharply between the early 1990s and the late 1990s. For example, the share working at all in the past year increased from 69% in 1992 to 82% in 2000. This increase closed the substantial gap in employment rates between single mothers and single women without children that existed in the beginning of the period. Beginning in 2000, both groups experienced a steady downward trend in employment rates, which dropped by 10 percentage points over this period.

While the Canadian data start a few years later, we see a striking rise in the employment rate of single mothers—rising from 62% in 1996 to 77% in 2001. As with the United States, this rise in employment closed the substantial employment gap (between single women with and without children) that existed in the beginning of the period. In contrast to the United States, both groups experienced steady employment through the end of the period (2011), where the employment rates hovered between 75% and 80%. Figure 6 presents similar trends for full-time work. Overall, these figures show patterns similar to those for any work in figure 5. Notably, however, among

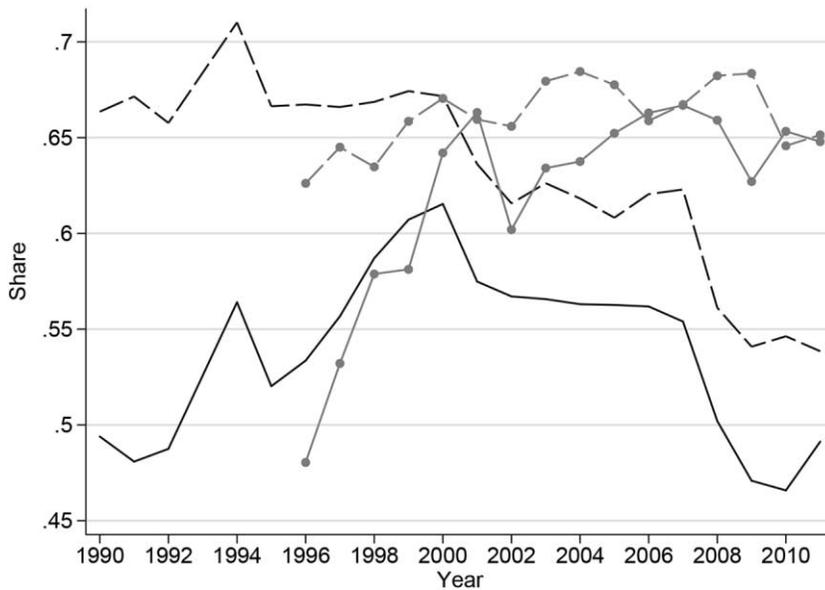


FIG. 6.—Share of single women aged 25–54 with no college working full-time. “No college” is defined as less than a 4-year degree. Women are considered working full-time if they reported usually working at least 35 hours a week and at least 50 weeks in the previous year. Solid and dashed lines are for women with and without children, respectively; plain lines are for the United States, lines with dots are for Canada. Data are from the CPS-ASEC (United States) and the SLID (Canada). A color version of this figure is available online.

single mothers with less than a college degree, full-time employment rates are higher in Canada—ranging from 60% to 67%, compared to the peak in 2000 in the United States at 62%.

Importantly, the post-2000 trends in figures 5 and 6 differ significantly between the United States and Canada. In the United States, growth declined significantly after the historically strong labor market of the late 1990s, leading to a post-2000 period of lower growth. This was punctuated by the Great Recession and the significant downturn between 2008 and 2010 in the United States. Canada, on the other hand, experienced neither the change in growth in 2000 nor the severity of the Great Recession. To illustrate the dramatic differences that emerge in the macroeconomy over this period, figure 7 presents the annual unemployment rate series for both countries from 1990 to 2015. Historically, unemployment rates in Canada have exceeded those of the United States. However, the United States experienced a steady increase in unemployment in the 2000s, along with a sharp increase in the Great Recession. In contrast, while Canada's unemployment rate was higher over the 1990s and early 2000s, Canada experienced a much smaller recession in 2008, followed by a quicker recovery. This makes it quite difficult to derive conclusions about the role of the social safety net

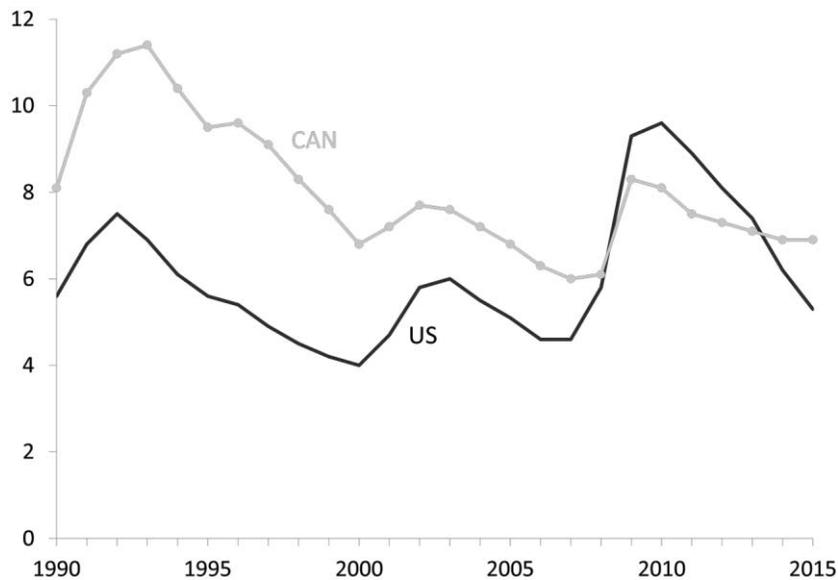


FIG. 7.—Annual unemployment rate, United States (plain line) and Canada (line with dots), 1990–2015. Data from the Bureau of Labor Statistics (United States) and Statistics Canada, Labour Force Survey (Canada). A color version of this figure is available online.

by comparing trends across countries. We take a deeper dive into those issues in the next section.

C. Trends in Poverty

To broaden our analysis to examine family well-being, here we examine trends in poverty across the two countries. To facilitate comparisons across countries, we adopt the Organisation for Economic Cooperation and Development (OECD) definition of absolute poverty (OECD 2015), also recently highlighted in a UNICEF series on child poverty in the Great Recession (Bitler, Hoynes, and Kuka 2014; UNICEF Office of Research 2014). The main advantage of this approach is that one does not have to grapple with a different absolute poverty threshold across the two countries.¹⁹

We construct the poverty rates for each country, using the following process. First, we compute an after-tax-and-transfer (ATT) income measure for the family or household.²⁰ Second, we compute equivalized ATT income (i.e., ATT income/equivalized household size; where equivalized household size is computed with the OECD modified scale).²¹ Third, we compute the median of the equivalized ATT income in our base year, 1996 (chosen because it is the first year in the SLID; we use the same year for the United States), using all households in our data. The absolute poverty line for 1996

¹⁹ Official poverty in the United States is determined by comparing total pretax family cash income to poverty thresholds, which vary by family size, number of children, and presence of elderly persons. The poverty thresholds reflect a basket of goods set in the 1960s and are adjusted each year for changes in prices. For example, in 2015, the poverty threshold for a family of three (one adult, two children) was \$19,096. This measure has many drawbacks, in particular is its omission of the key sources of support that we examine here: SNAP (because it is in kind, not cash) and the EITC and CTC (because they are taxes). The Census Bureau now releases the Supplemental Poverty Measure (SPM), along with official poverty, in its annual poverty reporting (Short 2011). The SPM resource measure expands to include the cash value of various in-kind transfers and nets out taxes (and deducts from income child support payments, medical out-of-pocket expenditures, and work expenses, including child care). Additionally, the SPM family unit is modified to include cohabitators and their children, and poverty thresholds vary geographically. The census SPM thresholds are defined to be the average of the 30th and 36th percentiles of the distribution of consumer expenditures on food, clothing, shelter, and utilities, plus an additional 20% to account for additional necessary expenditures. This makes the SPM a “quasi-relative” poverty measure.

²⁰ In the United States, we use a “household” sharing rule, combining the income of all persons living in the same household (excluding unrelated children). This allows for clear measurement of in-kind sources of income, including SNAP and energy assistance. See Bitler and Hoynes (2016a) and Bitler, Hoynes, and Kuka (2017) for more information on this measurement. In Canada, we use the census family (those related by birth and marriage). In practice, the differences in outcomes between the census family and household measures of income and poverty are minimal.

²¹ The OECD equivalized scale equals 1 for the head, plus 0.5 for each additional adult (age ≥ 14), plus 0.3 for each child (age < 14).

is then 60% of the median of equivalized ATT income for 1996 (in each country). To compute the absolute poverty lines for the other years, we start from the 1996 poverty line just computed and adjust for inflation. We refer to these as the “country-specific” absolute poverty rates.

In addition to computing poverty rates using country-specific poverty thresholds, we also compute a pooled poverty threshold, using a modification of the methodology described above. First, we convert Canadian income in each year to USD, using published OECD PPP values for that year, and then calculate the 1996 absolute poverty threshold as described above, but using the combined US-Canada income distribution (now all in USD). The absolute poverty threshold is then adjusted each year with the US consumer price index (CPI). We refer to this as the pooled absolute poverty rate.

If the household (for the United States) or census family (for Canada) has equivalized ATT income below the equivalized poverty line, then they are assigned to be poor. In the case of the combined US-Canada poverty threshold, we compare US ATT income and Canadian PPP-adjusted ATT income to the combined threshold. To highlight the role of the labor market versus that of the social safety net, we also construct a “private-income” poverty measure. Here, the poverty thresholds remain the same. All that differs is the equivalized income measure that is compared to the threshold. Private income is pre-tax-and-transfer income and includes earned and unearned income. ATT income equals private income plus cash transfers and the value of noncash transfer payments, less payroll taxes and net federal and state/provincial income taxes (including in-work benefits and child tax benefits). For more information on income definitions for both countries, see appendix B.

Figure 8 shows the trends in absolute ATT poverty for women aged 25–54 with less than a college degree, using the country-specific poverty thresholds described above. Several things are evident in this figure. In the United States, poverty rates for single mothers fall between 1993 and 2000 absolutely and relative to single women without children, though throughout the period the poverty rate for single mothers remains higher than that for single women without children. Following the pattern for employment, beginning in 2000 poverty rates for both groups trend slowly up. In Canada, poverty rates for single mothers fall throughout most of the period, falling dramatically relative to single women without children. By the end of the period, the poverty rate for single mothers is below that for single women without children (25% vs. 33%).

To explore the role of the social safety net in these trends, in figure 9 we compare private-income poverty for the two groups of single women with less than a college degree in the two countries. For the United States, poverty rates for single mothers based on private income are only slightly higher than ATT poverty at the beginning of the period (53% for private

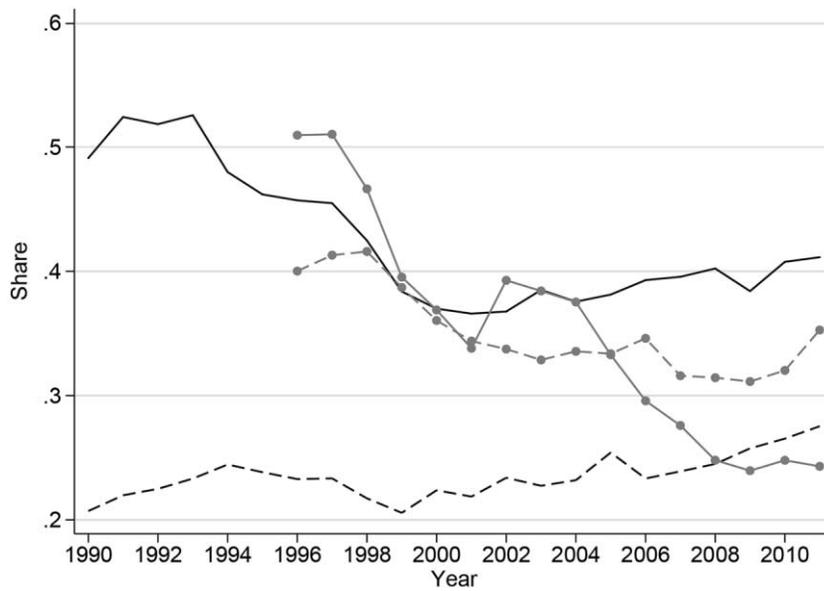


FIG. 8.—Share in country-specific absolute poverty (ATT income), single women aged 25–54 with no college. “No college” is defined as less than a 4-year degree. The absolute poverty threshold is defined as 60% of the median equivalized ATT income in 1996 (base year) for each country, adjusted for inflation. See text for details. Solid and dashed lines are for women with and without children, respectively; plain lines are for the United States, lines with dots are for Canada. Data are from the CPS-ASEC (United States) and the SLID (Canada). A color version of this figure is available online.

income poverty vs. 49% for ATT poverty), and both decline over the 1990s, along with a slightly more pronounced increase over the 2000s for private income than for ATT income, particularly after the Great Recession. In Canada, there is a similar level effect, with rates for single mothers starting at 60% for private-income poverty versus 51% for ATT poverty, and a similar decline over the 1990s and 2000s. However, in Canada, private-income poverty for single mothers remains higher than that for single women without children over the entire period, whereas ATT poverty levels for single mothers fall below those for women without children, as noted above. In both countries, it would appear that while part of the decline in poverty is due to changes in market income, a growing part of the decline in poverty over the 2000s is due to the effects of taxes and transfers. This is particularly so for Canada.

Figures 10 and 11 present trends in both ATT and private-income poverty, using a pooled poverty measure across the two countries calculated

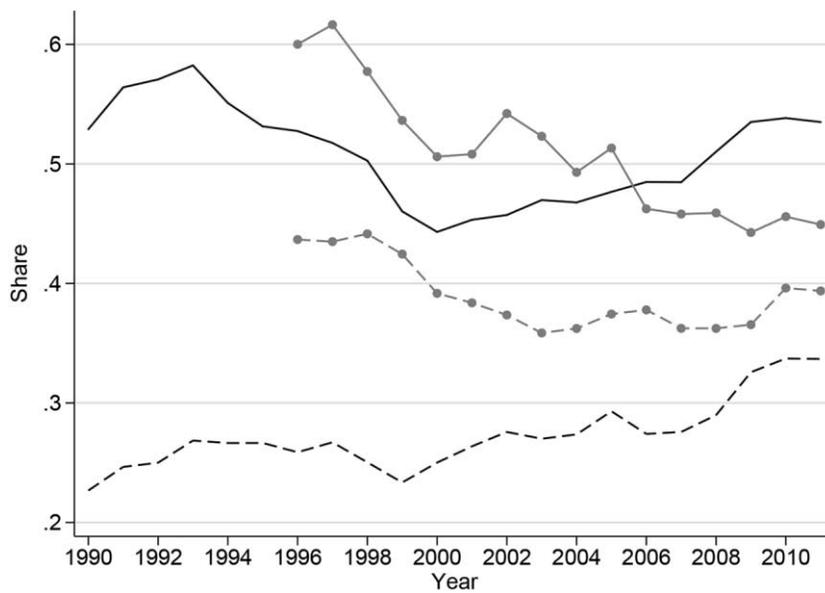


FIG. 9.—Share in country-specific absolute poverty (private income), single women aged 25–54 with no college. “No college” is defined as less than a 4-year degree. The absolute poverty threshold is defined as 60% of the median equivalized ATT income in 1996 (base year) for each country, adjusted for inflation. See text for details. Solid and dashed lines are for women with and without children, respectively; plain lines are for the United States, lines with dots are for Canada. Data are from the CPS-ASEC (United States) and the SLID (Canada). A color version of this figure is available online.

from the combined income distribution (as described above). Perhaps surprisingly, using the pooled poverty threshold reveals very similar patterns despite differences in income distribution between the two countries. In the United States, the drop in poverty rates for single mothers over the 1990s remains, as does the uptick over the 2000s. For Canada, poverty rates for single mothers drop significantly over the 1990s and then continue to drop over the 2000s, passing the US poverty rate in 2005 and the rate for single women without children in Canada in 2006. Similarly, with private income the decline in both countries is smaller, and the poverty rate for single mothers in Canada crosses that of the United States in 2007 and remains always above that for single women without children.

D. Summary and Connection to Policy Changes

Single mothers in the United States and Canada increased employment, closing the historical employment gap between single women with and

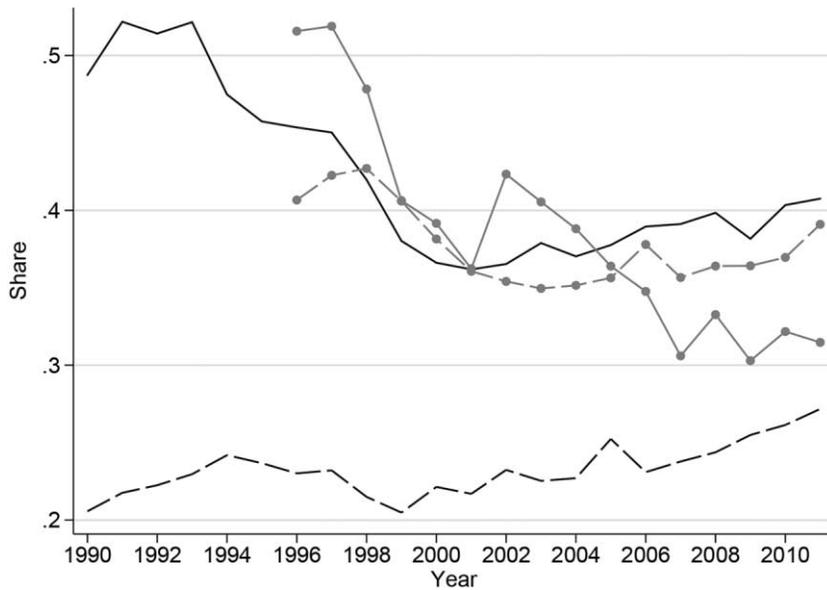


FIG. 10.—Absolute pooled poverty rate (ATT income), single women aged 25–54 with no college. “No college” is defined as less than a 4-year degree. The absolute poverty threshold is defined as 60% of the median equivalized ATT income for the United States and Canada combined in 1996 (base year), adjusted for inflation. The same threshold is used for private-income poverty and ATT poverty; the measures differ only in what resource measure is used. See text for details. Solid and dashed lines are for women with and without children, respectively; plain lines are for the United States, lines with dots are for Canada. Data are from the CPS-ASEC (United States) and the SLID (Canada). A color version of this figure is available online.

without children, and the trends followed the timing of critical policy changes. Single mothers also experienced reductions in poverty during this period, absolutely and relative to single women without children. Consistent with the different models for reform, the US decline in poverty may be more driven by changes in market income, while the Canadian decline is more driven by changes in benefits. This reflects the work requirement in the US policies and a more universal approach in Canada. Additionally, by the end of the period, absolute poverty rates in Canada are lower, consistent with the greater generosity in the Canadian programs. On the other hand, given the work requirements in the United States and the greater reductions in ATRs embodied in the US reforms (table 1), we predicted a larger increase in employment in the United States; the data are not consistent with that prediction. One possible confounder is the difference in the

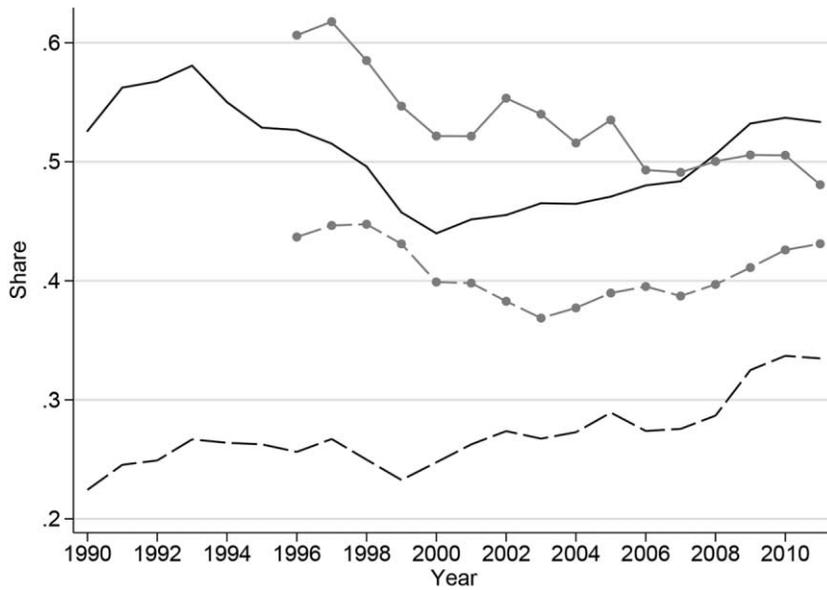


FIG. 11.—Absolute pooled poverty rate (private income), single women aged 25–54 with no college. “No college” is defined as less than a 4-year degree. The absolute poverty threshold is defined as 60% of the median equivalized ATT income for the United States and Canada combined in 1996 (base year), adjusted for inflation. The same threshold is used for private income poverty and ATT poverty; the measures differ only in what resource measure is used. See text for details. Solid and dashed lines are for women with and without children, respectively; plain lines are for the United States, lines with dots are for Canada. Data are from the CPS-ASEC (United States) and the SLID (Canada). A color version of this figure is available online.

macro labor market conditions across the two countries. We turn to that next.

V. Relative Trends in Employment and Poverty Combining US and Canadian Data

In order to better understand how much the different underlying labor markets between the two countries drive the effects of the social safety net on single mothers, we use a regression framework where we combine the micro data from the two countries to estimate models of employment and poverty rates. We combine the 1990–2011 data from the CPS and the 1996–2011 data from the SLID. Our sample consists of all unmarried women aged 25–54 with less than college education in both countries. We estimate a pooled difference-in-differences model while controlling for local labor market conditions. In particular, the model includes fixed effects

for year \times country, year \times country \times single mother, and state/province as well as controls for the unemployment rate (at the state/province \times year level) and an interaction between the unemployment rate and being a single mother. We then plot the interaction terms for Canada \times year \times single mother and United States \times year \times single mother, using 1996 as the base year for both countries. This allows us to examine the employment and poverty trends for single mothers relative to single women without children, relative to the base year of 1996, for the two countries. We present these results in figures 12–14.

Figure 12 shows the relative trends for employment. Relative to 1996 and controlling for time trends and overall unemployment rates, employment for single mothers (relative to single women without children) improved in both countries. While the raw employment rates for single mothers presented in figure 5 looked quite different for the United States and Canada,

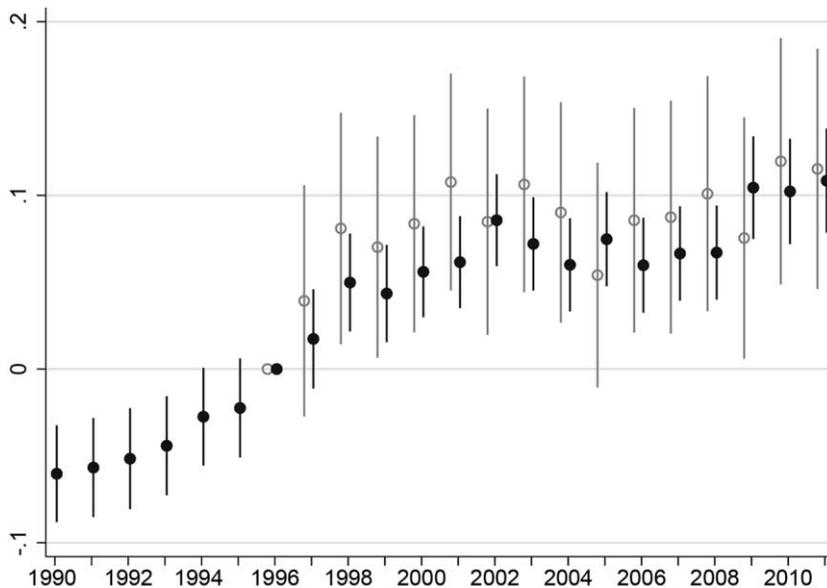


FIG. 12.—Relative employment trends, using pooled country data (base year 1996), unmarried women aged 25–54 with no college. Figure plots the coefficients on the interaction single mother \times year for each country for regressions of employment on fixed effects for year \times country, province/state unemployment rates, single mother, and single mother \times year. Sample combines 1990–2011 data from the CPS (United States; filled circles) and 1996–2011 data from the SLID (Canada; open circles) and consists of all unmarried women aged 25–54 with less than a 4-year degree. Test statistics of the joint hypothesis of equality between the US and Canadian interactions (joint F -test): $F = 0.678$; $p = .8085$. A color version of this figure is available online.

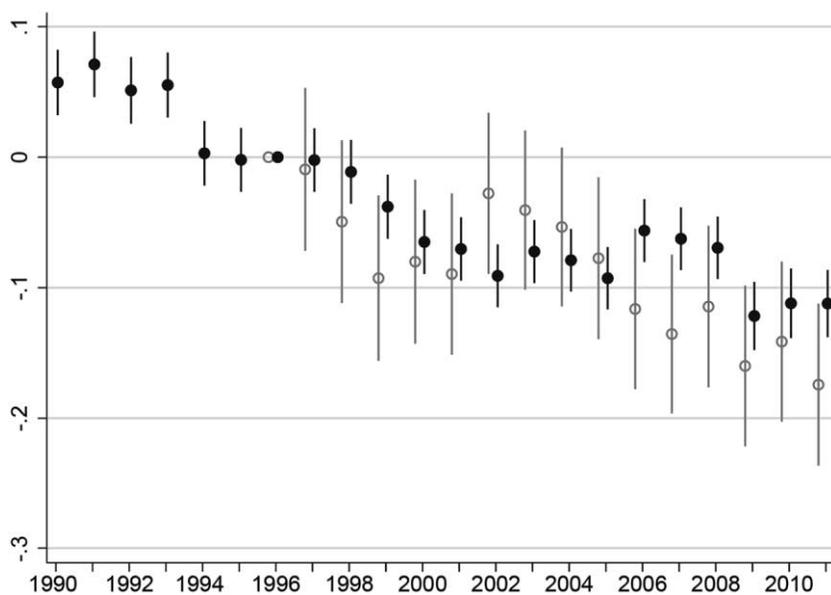


FIG. 13.—Absolute pooled ATT poverty, using pooled cross-country data (base year 1996), unmarried women aged 25–54 with no college. Figure plots the coefficients on the interaction between single mother \times year for each country for regressions of poverty on fixed effects for year \times country, province/state unemployment rates, single mother, and single mother \times year. Sample combines 1990–2011 data from the CPS (United States; filled circles) and 1996–2011 data from the SLID (Canada; open circles) and consists of all unmarried women aged 25–54 with less than a 4-year degree. Test statistics of the joint hypothesis of equality between the US and Canadian interactions (joint F -test): $F = 2.824$; $p = .0$. A color version of this figure is available online.

once we normalize relative to single women without children in the country and control for difference in labor markets, the trends are remarkably similar.²²

Figures 13 and 14 present similar results for absolute poverty, using ATT income and private income, respectively. For these comparisons, we use the pooled poverty measure across the two countries described in Section IV.C. The results from these models, controlling for labor market differences across the two countries, show some important differences in poverty trends for single mothers, compared to single women without children. First, abso-

²² For employment (fig. 12), the changes relative to 1996 and relative to single women without children are not statistically different between the two countries (see p -value for joint test of equality across countries at the bottom of the figure). For ATT and private-income poverty (figs. 13, 14), we can reject joint equality.

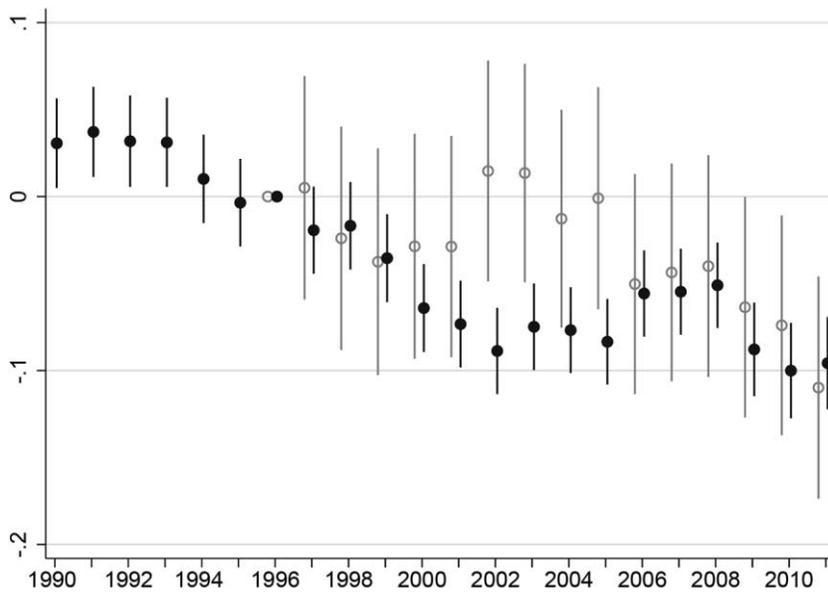


FIG. 14.—Absolute pooled private-income poverty, using pooled cross-country data (base year 1996), unmarried women aged 25–54 with college. Figure plots the coefficients on the interaction between single mother \times year for each country for regressions of poverty on fixed effects for year \times country, province/state unemployment rates, single mother, and single mother \times year. Sample combines 1990–2011 data from the CPS (United States; filled circles) and 1996–2011 data from the SLID (Canada; open circles) and consists of all unmarried women aged 25–54 with less than a 4-year degree. Test statistics of the joint hypothesis of equality between the US and Canadian interactions (joint F -test): $F = 2.263$; $p = .003$. A color version of this figure is available online.

lute ATT and private-income poverty rates fell for single mothers in both countries relative to 1996 and single women without children. Second, the relative decline in ATT poverty is greater in Canada, particularly in the years 2006–11. On the other hand, the relative decline in private-income poverty is greater in the United States, particularly during 2000–2005. This is again consistent with a larger share of the effect of the US social safety net for single mothers coming through market income than through transfer income.

Overall, these estimates show that the changes in social safety net programs in the United States and Canada led to dramatic increases in employment for single mothers in both countries. The United States hit a turning point around the year 2000, with lower growth rates; since then, single-mother employment rates have drifted down, compared to those in virtually all other developed countries (Council of Economic Advisors 2015).

Our results show that the single-mother employment gap (relative to single women without children) trended the same in the United States as in Canada—so whatever has “gone wrong” in the United States is similar across groups and is due to macroeconomic influences rather than changes in income support programs.

VI. Robustness Checks

We perform a series of robustness checks on our results to verify that sample definitions do not have large effects on the patterns of results. First, as noted above, the definition of marriage for benefit purposes differs between the United States and Canada. Appendix figures 5–7 present our main estimates where the US definition of married is expanded to include those recorded as cohabitating, living as unmarried partners, or a woman living with the father of her child, to make the US definition look more like the Canadian one (see above). Interestingly, the results are little changed by this change in definition of marriage. The findings are similarly robust to a second alternative definition of marriage, where we identify as married all women living with an unrelated man within 5 years of her age.

Second, we reestimate our results, excluding women with some college education from our low-education sample. In the US sample, lowering the education cutoff has little effect on the results. In the Canadian sample, small SLID sample sizes result in few single mothers with a high school degree or less, and therefore we end up with larger standard errors. With this caveat, one difference that emerges with this education cutoff is that ATT poverty rates for single mothers with only a high school degree or less did not fall as significantly.²³ Part of the explanation for this difference may lie in benefit take-up rates for these two groups. Take-up rates for child benefits are high in general, exceeding 80% for both groups of single mothers, but are between 1 and 6 percentage points lower for the high-school-or-less group. We find less of a difference in employment rates or poverty rates based on private income, further suggesting that take-up may be an important policy consideration for this group.

Third, we explored the sensitivity to accounting for different policies across Canadian provinces. Quebec has a much more generous and universal social safety net than the rest of Canada. This includes a universal and low-cost child care system, introduced in 1997. Our findings are qualitatively unchanged if we drop Quebec from the sample. Additionally, as discussed above, many provinces deducted the NCB from their welfare payments, strengthening work incentives by lowering the cost of transitioning from welfare to work. In another robustness check, we added a dummy variable

²³ EITC take-up rates remain fairly constant across education groups through to some college education (Hoynes and Patel 2018).

equal to one for the province-years when the clawback was active. The results are also robust to this specification test.

VII. Conclusion

The introductions of the EITC in the United States and the NCB/CCTB (and its successor) in Canada represent a major change in the structure of the social safety net for single mothers in both countries. The programs are striking in both their similarities and their differences. They both reflect a move away from relying primarily on traditional welfare benefits. They both encourage labor force participation, either through having work requirements (EITC) or lessening the welfare cliff with the introduction of child benefits that phase out at higher levels (NCB)—although, clearly, work incentives are stronger in the US programs. The evidence presented here suggests that these reforms have had positive employment effects on single mothers—the group most targeted by the programs. We find that both sets of programs are associated with a reduction in poverty rates among single women with children. However, it appears that market income plays a larger role in the United States—consistent with the stronger employment incentives inherent in the EITC—while benefit income may play a relatively larger role in Canada.

Despite the similarities in outcomes, there are some significant differences between the programs. Perhaps the largest of these differences is in the work requirements: the EITC requires households to work, while the NCB/CCTB does not. In theory, we expect this difference to result in greater labor force attachment in the United States than in Canada. Our evidence does not reveal strong differences along these lines, as single mothers in both countries experienced labor market improvements. While employment for single mothers without a college degree fell in the United States in recent years relative to that in Canada, the decline (relative to single women without children) is due to other differences in the labor markets across the two countries.

Additionally, the generosity of the Canadian social safety net exceeds that in the United States. This is revealed in lower absolute poverty rates in Canada, particularly in the recent period. However, once the weaker labor market in the United States beginning around 2000 is accounted for, poverty declines across the two countries (relative to single women without children) are quite similar. Finally, the lack of an out-of-work safety net in the United States suggests that we would expect higher rates of deep poverty there, compared to Canada. We find that more of the decline in poverty in the United States is due to market income than in Canada, which suggests that those without market income are relatively better off in Canada. More could be done to understand the broader impacts of the social safety net on the distribution of income and inequality in the two countries.

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