The American Welfare State in the Lives of Children

by

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INTRODUCTION

Welfare state benefits in all rich nations play an important role in the lives of children, especially children in the poorest quintile of the income distribution (Garfinkel, Rainwater, & Smeeding, 2010). This paper utilizes data from the Fragile Families and Child Well-Being Study to describe the prevalence, composition and value of welfare state benefits in the lives of children born in large US cities at the turn of the 21st century. The topic is important because so little is known about it. Nearly all welfare state research focuses on a particular program or a narrow set of programs. In kind benefits, like health, education, and housing are usually ignored. Thus myths about the size and nature welfare states abound. For example, the US welfare state is small and married parents get much smaller benefits than unmarried parents. The paper addresses the following questions:

1. What proportion of families with children receives welfare state benefits? What types of benefits do they receive, and what is the dollar value of different types of benefits?

2. How does the welfare state benefit package differ for married and unmarried parent families? Among the latter, how do benefits differ for cohabiting parent families and single mother families?

3. How large are welfare state benefits relative to market income? How does this vary by mothers’ marital status and living arrangements at birth?

4. How do welfare state benefits change over time, as children age from 1 one to 15? How do trajectories vary by family status at birth?

5. How much do welfare state benefits and the taxes required to finance them narrow the income gap between children born into different types of families?
This study builds upon work by Howard (2007) and Hacker (2002), by incorporating what they refer to respectively as the “hidden” and “divided” American welfare state, and especially upon work by Garfinkel, Rainwater, and Smeeding (2006 and 2010), which extends and amends the comparative welfare state literature by including in-kind benefits, tax benefits and taxes required to finance the benefits.

Most directly it extends work by Garfinkel & Zilanawala (2015) who examined welfare state benefits for children born to married-parent families and “fragile families”, defined as families formed by unmarried parents. We extend G&Z in five ways; first, while G&Z examined welfare state benefits during the first five years of a child life, our analysis extends the time frame to ages 9 and 15. Adding later years allows us to include the value of public education. Second, while most of the benefits examined by G&Z were specific to a particular child, we examine benefits at the household level, which allows us to include benefits to all children in the family. Third, while G&Z developed their own estimates of tax benefits, we use the NBER tax simulator to estimate tax benefits. Fourth, we now impute missing data, using Stata’s Multiple Imputations by Chained Equations (MICE), and last, we estimate the value of employer provided health insurance more precisely than G&Z.

We find that American welfare state benefits: 1) are larger than suggested by prior research, 2) are dominated by education and health, 3) loom large in the lives of children, especially children born into fragile families, and 4) narrow the gap in the total economic resources available to children born into different types of families. The next three sections of the paper summarize previous the literature, describe the data and methods, and present results. The
paper concludes with a brief summary, suggestions for future research, and implications for policy.

**Literature Review**

The traditional approach to estimating the economic wellbeing of families with children focuses on market income and cash transfers. In their 2010 book Garfinkel, Rainwater, and Smeeding (2010) argue that the focus on cash transfers is too narrow and leads to an underestimate of the wellbeing of US families and children. Specifically, they argue that in the U.S. expenditures on in-kind government benefits such as Medicaid, food stamps, and public housing are larger than expenditures on cash transfers such as TANF (Rice, 2010; U.S. Census Bureau, 2012). Furthermore, they note that several U.S. tax credits, deductions, and exclusions are economically comparable to cash and in-kind transfers, including the Earned Income Tax Credit (EITC), a partially refundable child tax credit, a tax credit for child care expenses, a homeownership mortgage interest and property tax deduction in the federal income tax, and employer provided health insurance which is the excluded from taxable income.

These authors develop a new measure of family economic resources – “full income” – that includes market income, plus cash and the value of in-kind and fringe benefits to recipients, minus the taxes required to pay for these benefits. As compared to disposable income, full income provides a more suitable measure of a household’s command over economic resources (Smeeding, 1982). When in-kind benefits are valued at full government or market cost, differences in inequality between the US and other rich nations shrink considerably at the bottom of the income distribution (Garfinkel, Rainwater, and Smeeding (2010). The authors further show that in the US, results are quite sensitive to valuations of in-kind benefits, particularly Medicaid.
The GRS measure of welfare state transfers includes public education and employer provided benefits, which is somewhat controversial. Although most cross-national comparative welfare state analyses do not include education, the conceptual definition of welfare states, as proposed by leading scholars, does so (Barr, 1993; Esping-Anderson, 1990). Employer provided health insurance is also often ignored in welfare state benefits research. A few economists have included the tax subsidy that comes from excluding private insurance from the federal income tax base. However, in accordance with Lampman (1978) and Hacker (2004), GRS count the total value of employer provided health insurance as a welfare state transfer. Though employer provided health insurance, unlike tax financed health insurance, fails to redistribute on the financing side, it does involve socialization of the risk of ill health and redistribution from the healthy to the sick, at the firm rather than the national level. Failing to count the full value of employer provided health insurance understates both the aggregate benefits and costs and the distribution of both benefits and costs of the US model for providing health insurance. In order to analyze how transfers and full incomes vary as a result of changes in family status, the full value of health insurance must be considered. If a mother loses private health insurance as a result of divorce but gains Medicaid, she loses the full value of private health insurance, not just the tax-subsidized portion.

Utilizing the same methodology as GRS, Garfinkel & Zilanawala (2015) used the Fragile Families and Child Wellbeing study to describe the role of welfare state benefits in the economic lives of children between birth and age 5. The income package used in their analyses consisted of income from the market, plus welfare state cash and in-kind transfers and tax credits, minus the taxes required to finance the transfers. Results revealed that the inclusion of welfare state transfers narrowed the income gap between children born to married parents and children born
into fragile families, Among the latter, the absolute amount of transfers exceeded the amount of
taxes paid by $11,000, increasing incomes from an average of $34,000 to $45,000. Among
married-parent families, taxes paid to finance welfare state benefits were greater than benefits received, decreasing incomes from an average of $93,000 to $85,000. Although the absolute
value of welfare state benefits was similar among different types of families, the relative value was very different. Welfare state benefits accounted for around 27 percent of full incomes for children born into fragile families, 33 percent of income for those born to cohabiting parents and 66 percent of income for those born to single mothers.

METHODS

Data

This paper uses data from the Fragile Families and Child Wellbeing Study (FFCWB), a
population-based, birth cohort study of ~ 5000 children born in large US cities (populations of
200,000 or more) between 1998 and 2000. Birth to unmarried parents were oversampled,
yielding a final sample of 3,710 non-marital births and 1,187 marital births. Follow up interviews
were conducted when the child was 1, 3, 5, 9, and 15 years old. Reichman et al. (2001) provide
further details on the design of the Study.

To describe and assess the role of welfare state benefits during early and middle
colhood and adolescence for children born into different types of families, we distinguish
between families in which the parents were married at birth – married-parent families – and
families in which the parents were unmarried at birth – fragile families. Among the latter, we
also distinguish between families formed by cohabiting parents and families formed by single
mothers. Note that our definition of family type is based on parents’ relationship status at birth
and does not change over time.

Sample

We use data from the mother survey when the sample child was ages 1, 3, 5, 9 and 15 years old; the analytic sample sizes are 4792, 4769, 4731, 4483, and 4215, respectively. Observations in which the mother is reported to not have primary custody of the child are eliminated from the sample. The income variables—market income and cash and in-kind transfers—are measured at each survey wave. Mother’s relationship status, living arrangements, and household composition are also measured at each wave, allowing for future work to incorporate estimates of changes in income packages over time in response to changes in family status.

Measures

A household’s income package is measured as the sum of 1) market income, 2) welfare state cash and in-kind transfers, and 3) tax credits. Tax liabilities are then subtracted from this sum. We include two sources of market income: mother’s earnings and partner’s earnings. (Interest, dividends and rents are not included in the analysis, thereby understating difference between married and unmarried families.) Cash transfers consist of Temporary Assistance to Needy Families (TANF), Supplementary Security Income (SSI), and other cash assistance. In-kind transfers include In-kind transfers include K-12 education, Medicaid, employer provided health insurance, Food Stamps, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Housing Assistance, and Early Childhood Education and Care (ECEC). Tax credits include the Earned Income Tax Credit (EITC), homeowners’ tax subsidy, child tax credit or deduction, and the health insurance tax subsidy. This section describes how each component of a household’s income package is reported and/or estimated.
Market income.

Mothers’ earnings. Mothers were asked to report earnings from their primary job. Earnings were reported as: daily, weekly, bi-weekly, every three weeks, monthly or yearly. Annual earnings are measured by multiplying the reported earnings by the appropriate number of periods per year. For weekly earnings, we assume there are 4.35 weeks per month. Mothers who report working at multiple jobs over the past 12 months are asked to provide the exact amount earned from all regular jobs in the last year. If a mother reports earnings from a primary job and earnings from multiple jobs, the larger of the two is used. When respondents are unable to report an exact amount of earnings, we use the median reported range interval of earnings to estimate earnings\(^1\).

Married or cohabiting father’s earnings. Mothers who are currently married or cohabiting with a partner are assumed to share household income and expenditures with the partner. As a result, the full household income includes the earnings of the mother and her partner. Biological fathers are interviewed at each wave, excluding year 15. In years 1 through 9, the earnings of biological fathers who are living with the mother are estimated using the same methodology as described for mother’s earnings. Mothers also report biological fathers’ earnings at years 1 and 15. Where possible, mothers’ reports of biological fathers’ earnings are used to fill in missing observations. Mothers’ new partners, who are not the biological father, are not interviewed. Nor is the mother asked to report the new partners’ earnings in years 1 through 9. New partners’ earnings are estimated in years 1 through 9 based on mothers’ reports of total household cash income. Mothers’ earnings and all reported cash transfers (as described below) are subtracted from the reported total household cash income. The difference, when positive, is considered to be the new partners’ earnings. At year 15, mothers are asked to report their partners’ earnings.

\(^1\) The sample is limited to custodial mothers.
Biological fathers and new partners earnings at year 15 are estimated based on this question using the same methodology as described for mother’s earnings.

**Welfare state transfers.**

**Cash transfers.** Receipt of TANF/Welfare, SSI, and other cash assistance are reported in the data. From year 1 through year 9, the survey asks mothers to report the number of months of benefit receipt and the dollar amount received per month. The annual benefit values are then calculated as the product of the two. In year 15, mothers are asked to report the amount of each benefit received in the past year.

**In-Kind Transfers.** The in-kind benefits included in the analyses are: Food Stamps, WIC, K-12 education, housing assistance, ECEC, Medicaid, and employer provided health insurance. In order to estimate the value of each of these in-kind benefits we determine which families receive the benefit and place a value on those benefits. Receipt of in-kind benefits were reported by mothers. However, reports vary by benefit. The same method is utilized to value all in-kind benefits. The value of in-kind benefits to beneficiaries may be less than their cost to tax payers (Smeeding, 1982). As a result, valuing in-kind transfers is problematic. On the other hand, the value of in-kind transfers to beneficiaries is greater than zero, their implicit assigned value when ignored. We follow Garfinkel et al. (2010) and value in-kind benefits at government cost.

**Food Stamps.** Receipt of Food Stamps is reported in the survey. Similar to cash transfers, in year 1 through year 9, the benefit value of food stamps received is calculated as a product of the reported number of months of food stamp receipt and the dollar amount received per month. For year 15, we use mothers’ reports of the amount received in the past year.

**K-12 Education.** In estimating public education benefits, Garfinkel & Zilanawala (2015) include in-kind transfers received for children enrolled in kindergarten at year 5. The current
paper expands this estimate in two ways. First, we include K-12 educational benefits at years 9 and 15. Second, at each wave, we assumed that all children in the household between the ages of 5 and 18 are enrolled in public education. The value of in-kind benefits from public education are estimated separately by state and year based on average per-pupil K-12 education costs provided by the National Center for Educational Statistics (NCES) and the Census Bureau (NCES, 2010; US Census Bureau, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2016). The estimate is then multiplied by the number of children in the household enrolled in K-12 education.

**Early childhood education and care (ECEC).** Early childhood education benefits are estimated at years 1, 3, and 5. ECEC benefits include child care, pre-kindergarten, and Head Start subsidies. In years one and three, ECEC benefits are estimated based on the mother’s report of the amount of child care assistance received from government agencies, employers, or child care centers. At year five, mothers report receipt of child care or pre-kindergarten assistance. However, they do not report the values of these benefits. Annual subsidy values are estimated for families who report receiving a subsidy, using the state average annual cost of child care (NACCRRA, 2008) minus mothers’ reported annual out of pocket expenses. Families in which the child is reported to be in nonparental child care arrangements and who also indicate subsidy receipt, are assigned an annual subsidy value based on values from the year three survey (according to the type of nonparental arrangement) minus any out of pocket expenses. Childcare assistance estimations remain relatively consistent with those used by Garfinkel & Zilanawala (2015), with one exception: we include mothers’ reports of annual out of pockets childcare expenses for all children in the household.

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2 The Census Bureau provides K-12 per pupil estimates for 2002-2010 and 2014. NCES per pupil estimates are used for years 1998-2001, 2015, & 2016.
Consistent with Garfinkel & Zilanawala, the sample child’s enrollment in pre-kindergarten is determined using the mothers’ report\(^3\). State average annual spending per child in pre-kindergarten is assigned to all families in which the sample child is reported to be enrolled in pre-kindergarten and indicate subsidy receipt (National Institute for Early Education Research). In years 1, 3 and 5, children’s participation in a Head Start program is reported by mothers. We estimate Head Start average annual allocations per child by state for all eligible children in the household ages 0-5 years old (Head Start Bureau, 2016). In the age 9 and 15 surveys, , we estimate the value of the benefit for eligible children under the assumption that if the sample child participated in Head Start at age 5, subsequent younger children also participate in the program.

**Housing assistance.** The Fragile Families data do not provide the value of housing assistance received. However, receipt of housing assistance is based on whether the mother reports having received federal, state, or local government help in paying rent or reported living in a public housing project. Mothers were also asked to provide the amount of out-of-pocket rent paid per month. The value of housing assistance received is determined by subtracting the amount of rent paid per month from the Fair Market Rent (FMR), estimated per city and year (HUD, 2017). The difference is then multiplied by 12 to determine the annual housing assistance received.

**Medicaid.** At ages 1, 3, and 5 receipt of Medicaid (mother only, child only, or both) is reported by mothers. To estimate the average value of Medicaid receipt per adult and child enrollee, we use Kaiser Family Foundation estimates of average Medicaid spending per state and per enrollee in 2011 (adults and children) as well as estimates for average growth in annual

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\(^3\) Pre-kindergarten benefits are only estimated for the sample child.
Medicaid spending. At the age 9 interview, mothers report receipt of Medicaid for the child but not herself. To determine mother’s receipt of Medicaid when the child was age 9, we assume that if the child receives Medicaid 9, the mother does as well, unless at age 5 she reported that the child received Medicaid and she did not. We further limit estimates to mothers who reported having any type of insurance at the age 9 survey. Similarly, at the age 15 interview the mother only reports receipt of Medicaid for the sample child. To estimate the mother’s receipt of Medicaid, we use the same estimation strategy as for year 9. Medicaid estimates differ from those used by Garfinkel & Zilanawala, which only include the benefit received by the mother and/or sample child. In the current paper, we additionally include benefits received other children in the household.

**WIC:** Receipt of WIC at ages 1, 3, and 5 is estimated based on mothers’ reports. The value of the benefit is determined using state average monthly WIC benefits per person (United States Department of Agriculture). Respondents are not asked to report the number of months of WIC receipt during the last 12 months. However, according to the National WIC Association, mothers and their children up to age five are very likely to be WIC recipients conditional on income and nutrition risk tests. Therefore, if mothers reported WIC receipt, we assume they met eligibility requirements and received WIC during the past 12 months. Garfinkel & Zilanawala assign this benefit to all households who report being WIC recipients. In order to estimate WIC benefits received by other eligible children in the household, the current paper multiplies the

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4 Kaiser Family Foundation estimates for average per enrollee Medicaid spending are available by state for FY2011. To estimate the average value of per capita spending per adult and child in the years leading up to 2011, we use Kaiser Family Foundation estimates for average growth in annual Medicaid spending per state. To estimate the value of Medicaid spending per adult and child in the years after 2011 we apply KFF average yearly growth in Medicaid spending. All estimates are available in the January 2015 issue brief titled “Medicaid Per Enrollee Spending: Variation Across States” available at: http://files.kff.org/attachment/issue-brief-medicaid-per-enrollee-spending-variation-across-states-2

5 To ensure that Medicaid estimates are comparable to employer provided insurance estimates, we assume that families in which the mother and sample child receive Medicaid consist of one adult and 2.4 children.
benefit by the number of children in the household below the age of five. In the age 9 and 15 surveys, mothers are not asked to report receipt of WIC. We assume that if the sample child is eligible for WIC at the age 5 survey, children up to age 5 in the household remain eligible at age 9 and 15 surveys.

**Employer Provided Health Insurance.** In the surveys conducted when the sample children were ages 1, 3, and 5, mothers report private health insurance receipt for themselves and the child. In the age 9 and 15 surveys data on the receipt of private health insurance is only asked for the sample child. Thus we assume that mothers who report being covered by health insurance but who do not receive Medicaid (determined as described above) receive private health insurance. As mentioned before, one of the most significant ways in which this paper differs from Garfinkel & Zilanawala (2015) is the valuation of employer provided health insurance. Garfinkel & Zilanawala estimate the value of private insurance using age-adjusted national averages of the per capita value of employer provided health insurance. In the current paper, we determine the cost of employer provided health insurance by subtracting the average annual worker’s contribution by state from the average annual premium per state for both single and family coverage (Kaiser Family Foundation, 2016, 2017). If both the mother and children are reported to receive employer provided insurance family coverage values are used. Among households in which the child is reported to receive employer provided insurance and the mother does not, the valuation differs slightly. First, the total value of average annual premiums for family coverage is used as the worker contributing (assumed to be nonresidential fathers) is not in the household. However, part of the family premium provides coverage to the non-residential worker, not the children. We assume that the proportion of the average family coverage premium attributed to the children’s insurance is similar to the cost of Medicaid for both an adult
and child in relation to the cost of Medicaid per child\(^6\). The value of average family coverage premiums is then multiplied by the estimated Medicaid proportion to determine the benefit received.

**Tax credits and tax subsidy transfers.**

A household’s tax liabilities under federal and state tax laws, the EITC, the child care tax credit, and the child tax credit are estimated using the National Bureau of Economic Research’s TAXSIM version 9.2. TAXSIM uses the mother’s reported marital status, earnings, and number of dependents to make these estimates. This also differs from estimates used by Garfinkel & Zilanawala (2015) which primarily relies on average tax savings based on income class to estimate tax credits.

**Home Ownership Tax Subsidy.** The first step in estimating the home ownership tax subsidy is to determine whether the mother reports owning their own home or living in a house or living in a condo owned by another family member. Mothers who report that she has not moved since the past interview, are assumed to have the same homeownership status as the previous wave, or the most recent wave available. Next, mortgage values are determined based on mother’s response to: “what are your/their monthly mortgage payments? Please include taxes and any insurance payments that may be included in the monthly payments.” Reported values from previous waves are used if the respondent has not moved since the previous wave. Monthly mortgage payments are then multiplied by 12 to determine annual mortgage payments. Mortgage payments typically include principle, interest, property taxes, and insurance premiums (Internal Revenue Service, 2015). To determine the amount of the monthly mortgage which goes towards principle and interest we first subtract the property tax (estimated as shown under

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\(^6\) This relationship differs by state and year. However, the cost of Medicaid per child is between 30 and 50 percent the cost of Medicaid for both an adult and child.
property tax deduction) from the annual mortgage payment. Next, the amount which goes
towards interest and principle is estimated. Assuming a 30-year mortgage and an average interest
rate of 4.5%, an estimated 45% of the total amount paid will go towards interest. Annual
mortgage payments are multiplied by 0.45 to determine annual interest. Annual Property Tax
values are determined using the mother’s report of home value at each wave. The home value is
then multiplied with an assumed tax rate of .011, an average of the state mean property tax rate
in 2015 (Tax Foundation, 2015). Lastly, while NBER’s TAXSIM does not provide a direct
amount for the homeownership tax subsidy, it is determined by estimating federal and state tax
liabilities both with and without property taxes and annual mortgage interest. The difference in
liabilities is assumed to be the homeownership tax subsidy.

Taxes.

Tax liabilities are imputed using estimates from Garfinkel & Zilanawala (2015), which
are derived from Garfinkel et al. (2010) and the mean incomes of married and fragile families.
Thus, the tax rate for fragile families is estimated at 30% and 27% among married families.
According to Garfinkel & Zilanawala (2015), “While the estimates are crude, the fact that
average tax rate is so close to proportional across the entire income distribution means that any
errors will be slight.”

Missing data and Multiple Imputation

Bias due to attrition and non-response were a concern when conducting this study, as is
often the case when working with panel data. Multiple Imputation (MI), which replaces missing
information with predictions based on observed data, was used to address attrition and other
forms of missing data. MI was implemented using Stata’s Multiple Imputation by Chained
Equations (MICE) series of commands. The multiply imputed data was then processed through
NBER’s TAXSIM to estimate the value of tax credit and tax subsidy transfers outlined in the previous section.

Results

This section begins by documenting the full incomes of the different types of families into which children are born. The next subsection compares the receipt and dollar values of welfare state transfers in different types of families. Finally, we present estimates of the extent to which welfare state transfers and the taxes required to finance them narrow the income gap between different types of families.

The vulnerability of fragile families

Table 1 presents data on mothers’ human capital and household income. Mothers in fragile families have much lower human capital and much lower household incomes than mothers in families formed by married parents. Among the former, 41% of mothers have less than a high school diploma, 33% have a high school diploma or GED, and only 3% have a college degree. In contrast, among families formed by married parents, over a third of mothers have a college education and only 17% have less than a high school education. Fragile families are disproportionately from racial/ethnic minority groups. Over half are black, 28% are Hispanic and only about 14% are white. In contrast, over 40% of mothers in married-parent families are white, 25% are black and just under 25% are Hispanic. Children born into fragile families are much more likely to have a father that has been incarcerated than children born to married parents, 36% versus 8% respectively. In stark contrast to these vast differences between married and fragile families, the average the number of school age children is similar across family types.
Finally, note that within fragile families, the human capital of mothers in cohabiting-parent families is somewhat higher than the human capital of single mothers, but the two groups are more similar to each other than to married mothers.

All of the differences described above are reflected in differences in the full incomes of families. The full income of children born to married-parents is over $80,000, or nearly double that of children born to single mothers. The full income of cohabiting-parent families is in between but much closer to that of families formed by single mothers. In short, children born to parents in fragile families differ from those in married parents families, not just because of their marital status. They are also considerably more disadvantaged.

**Welfare state transfers by family type**

Table 2 presents the welfare state benefit receipts during the child's first year of life by family type. Benefits are grouped by cash and in-kind. The most common cash benefits are the two tax credits—the child tax credit and the EITC. The child tax credit is received by nearly half of fragile families and by about 70% of married-parent families. Among fragile families, 60% receive the EITC compared to 20% of married-parent families. A large minority of fragile families—over 30%—receive TANF and a small minority—4%—receive SSI. Receipt rates of TANF and SSI for married-parent families are 4% and 1%, respectively.

Receipt of in-kind benefits is widespread. Nearly 50% of fragile families receive food stamps, more than 80% receive WIC, nearly three-quarters receive Medicaid, and more than 20% receive public housing or housing vouchers. Married-parent families also have high rates of benefit receipt, although their benefits come primarily from employer provided benefits and tax benefits. Indeed, a striking feature of Table 2 is the bi-furcated nature of benefit receipt for
medical care and housing: fragile families are more likely to receive income-tested benefits while those formed by married parents are more likely to receive benefits through the tax system. These results reflect what Hacker (2004) has referred to as the “divided welfare state.” In health care benefits, roughly three quarters of fragile families receive Medicaid when the sample child is age one, while nearly two-thirds of married –parent families receive employer provided health insurance. Only 3% of fragile families receive the federal income tax subsidy for owner occupied housing as compared to nearly 40% of married-parent families. Among fragile families, nearly one in four receives public housing or housing vouchers, while the proportion among married-parent families is 7%. An important exception, which becomes more important as the sampled child becomes older, is public education. There may be a divided welfare state in this area as well as other areas, but the divide is not between safety nets and employer provided or tax subsidized benefits.

Single mother families have higher rates of means tested benefit receipt than cohabiting-parent families, but the differences are small. The biggest differences are for TANF receipt and Food Stamp receipt. Most important, benefit receipt differences, just like human capital differences, between the two kinds of fragile families are quite small compared to differences between married-parent families and fragile families. For this reason, Fig. 1 focuses on the comparison of the latter two groups.

Fig. 1 shows the sources of household income when the child is 1, 3, 5, 9 and 15 years old. The pies reflect the total dollar value of welfare state transfers. The slices indicate the proportion of benefits that come from: a) the child tax credit; b) the earned income tax credit; c) Food Stamps and WIC; d) Early Childhood Education, including Head Start, child care
subsidies, the child care tax credit, pre-kindergarten\(^7\), e) Health insurance, including Medicaid, SCHIP, and employer provided health insurance; f) Other cash transfers; g) Housing subsidies, including public housing and vouchers and the homeowner tax deduction; h) K-12 public education.

Welfare state transfers change across time and differ substantially from those presented in Garfinkel & Zilanawala (2015). First, the total dollar values are much higher, particularly at age 5. Whereas the GZ estimates for fragile families and married-parent families are $22,169 and $22,886 respectively, our estimates are $45,885 and $40,402. The dramatic increase is due primarily to the inclusion of public education benefits for all children in the household. As shown in Fig. 1, public education is the single largest welfare state transfer received at each year regardless of family type.

Garfinkel & Zilanawala (2015) also find that the total value of welfare state transfers are slightly larger for married parent families than for fragile families. Our results differ somewhat. Welfare state transfers are from 5 to 25% larger among fragile families. This difference is due primarily to differences in the methodology used to estimate health care benefits. First, by including all household members, the value of Medicaid benefits, which are more likely to be received by unmarried parent families, increased substantially. Second, as previously mentioned, the value of employer provided health insurance excludes worker contributions. Garfinkel & Zilanawala (2015) state that the size of welfare state benefits between unmarried- and married-parent families is similar because married-parent families receive larger health insurance benefits. However, due to an increase in the value of Medicaid and a decrease in the value of

\(^7\) Estimates of child care expenses and subsidies were not available after the sample child entered public education. Therefore, at years 9 and 15 Head Start is the only component of ECEC included in Fig. 1.
employer provided health insurance, the total value of the health insurance benefit is now greater among fragile families.

Consistent with Garfinkel & Zilanawala (2015), we find that welfare state benefits are lowest during the first year of a child’s life, increasing by ages 3 and 5. Our findings show a continuation of this trend, with increases at age 9 and then stability through age 15. A striking aspect of Fig. 1 is the tiny role of cash benefits, the majority of which come from the two tax credits that are ignored in much of the welfare state literature. As noted above, public education is the single largest element of the benefit package for both married-parent families and fragile families. However, public education benefits become significantly larger at ages 9 and 15, once the child enters school. Health insurance is the second largest element in the income package, amounting to around 20% of benefits for both family types.

The importance of welfare state benefits

Fig. 2 compares the market incomes and full incomes of married-parent families and fragile families when the child is age 15 and displays the role of welfare state transfers in the income packages or full incomes of both types of families. The full value of employer provided benefits is included in market income, as well as full income bars because this benefit is provided by employers as part of the total compensation package. (Economists agree that the costs of employer provided insurance aside from the portion subsidized the federal income tax is passed back onto workers in the form of lower earnings.) The first set of bars indicates that parents’ earnings plus employer provided health insurance in fragile families are only a third as great as in married-parent families--$47,000 compared to $117,000. This vast difference is attributable to the equally vast differences between the two groups in human capital and opportunities. The second set of bars present estimates of post transfer, post-tax income, or full
income, for the two family types and for an important subset of fragile: single mothers.

Comparing the first and second set of bars indicates that welfare state transfers and the taxes required to finance them narrow the gap in full incomes between married parent families and fragile families. Welfare state transfers exceed taxes by $48,000, increasing incomes from $47,000 to $95,000. The market incomes of married-parent families are much larger than those of fragile families, thus the former pay $18,000 more in taxes. Despite higher tax liabilities, however, welfare state transfers received by married-parent families also exceed taxes, increasing average income from $117,000 to $139,000. As a consequence of welfare state transfers and the taxes required to finance them, the proportion of family income in relation to married family income increases from slightly more than a third for market income to nearly 75% for full income. This estimate implicitly assumes that the transfers and taxes have no behavioral effects, which is not the case, but which is a useful first approximation. The difference is only a first approximation because it reflects changes in work, earnings, savings, marriage, and private transfers that are induced by welfare state transfers and taxes (for a more detailed discussion see Garfinkel et al., p. 63 and footnote 2, 2010).

The absolute value of welfare state transfers is modestly higher among fragile families as compared to married-parent families. However, married-parent families’ market incomes are much larger. As a result, welfare state transfers constitute a much larger fraction of fragile families’ full incomes—66% as compared to only 37% of married-parent families’ full income. In short, welfare state transfers play a critical role in the economic lives of children born into fragile families.
Discussion

Building on the work by Garfinkel & Zilanawala (2015), this study contributes to literatures on income packaging, inequality and welfare states by including the full value of in-kind transfers and taxes in the full income package, by estimating the full incomes for different family types, and by including all dependent children in the family. For the most part, welfare state transfers to families with children in the US are paid in-kind or in the form of services rather than cash transfers. Though in-kind transfers may be worth less (or more) than their government cost to recipients, they are non-negligible. When valued at government cost, we are able to add the value of transfers together, which provides an overall picture of the American Welfare state. Similarly, our analysis confirms the bifurcated nature of welfare state transfers by family type in health insurance and housing highlighted in Garfinkel & Zilanawala (2015). While the poor and most fragile families receive income-tested health insurance and housing benefits, middle and upper income, mostly married-parent families receive generous employer provided health benefits and tax subsidized home ownership benefits. Like Garfinkel & Zilanawala (2015), we find that total benefits received by different types of families with children are similar, but unlike G&Z we find that fragile families’ welfare state transfers are between 5 and 25% greater that those received by married-parent families at all waves.

Expenditures on public education stand out in our analysis. By the time the sampled child is 15 years old, they constitute close to 2/3 of all welfare state transfers to families with children.

As a whole, welfare state transfers in the U.S. as well as the taxes that fund them, reduce inequality across family types. The small to modest difference in benefits received based on marital status combined with somewhat regressive but near proportional taxes reduce inequality in market incomes. As a result, the difference in income between married-parent families and
fragile families decreases from around three to one to less than one and a half to one. Welfare state transfers play an important role in the economic wellbeing of all families, particularly fragile families. Two thirds of fragile families’ full incomes come from welfare state transfers.

These findings raise several questions. Is the heavy reliance on in kind transfers in the American welfare state optimal, especially for Fragile Families? Are poor children likely to benefit more from an additional $1000 in health or education expenditures or an additional $1000 in their family’s income? What are the costs of the bifurcation in the cash and health insurance portions of the American welfare state?

This study is not without limitations. First, though under-reporting of income tested transfer benefits has been increasing and is estimated to be 33% for Food Stamps and 28% for the EITC (Meyer, Mok, & Sullivan, 2009; Wheaton, 2007), we do not attempt to correct for underreporting of transfer benefits. Second, we assume homogenous quality of in-kind benefits across family structure. Third our estimates of the value of employer provided health insurance and Medicaid are crude and not quite consistent.

Future research should examine the extent to which our conclusions are robust to corrections for under-reporting and data on within program treatment by marital status. Future research can also focus on the effects of changes in marital status on welfare state benefits, estimate the cushioning effects of the welfare state taken as a whole, and examine the extent to which changes in marital status lead some families to fall through the cracks in the American welfare state. Finally, future research could study any cushioning effects of particular portions of the American welfare state. This study suggests that more research is needed on family income packages, poverty and inequality that takes into account in-kind benefits as well as taxes.
References


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Table 1: Human capital and full incomes of mothers by relationship status at birth

<table>
<thead>
<tr>
<th></th>
<th>Fragile Families (n=3,698-3,702)</th>
<th>Married (n=1,186-1,187)</th>
<th>Fragile Families Cohabiting (n=1779-1782)</th>
<th>Fragile Families Single (n=1916-1921)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother’s age at child’s birth</td>
<td>23.98 (0.09)</td>
<td>29.34 (0.16)</td>
<td>23.69 (0.13)</td>
<td>24.28 (0.13)</td>
</tr>
<tr>
<td>Mother’s race/ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White non-Hispanic</td>
<td>0.14</td>
<td>0.42</td>
<td>0.18</td>
<td>0.11</td>
</tr>
<tr>
<td>Black non-Hispanic</td>
<td>0.55</td>
<td>0.25</td>
<td>0.44</td>
<td>0.64</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.28</td>
<td>0.25</td>
<td>0.34</td>
<td>0.22</td>
</tr>
<tr>
<td>Other non-Hispanic</td>
<td>0.03</td>
<td>0.08</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Father is ever incarcerated</td>
<td>0.36</td>
<td>0.08</td>
<td>0.31</td>
<td>0.41</td>
</tr>
<tr>
<td>Number of school age children in household</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>0.88</td>
<td>0.74</td>
<td>0.80</td>
<td>0.96</td>
</tr>
<tr>
<td>(0.02)</td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Year 15</td>
<td>3.20</td>
<td>3.12</td>
<td>3.24</td>
<td>3.17</td>
</tr>
<tr>
<td>(0.03)</td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.04)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Full income</td>
<td>51,234</td>
<td>84,896</td>
<td>55,685</td>
<td>47,083</td>
</tr>
<tr>
<td>(943)</td>
<td>(2,076)</td>
<td>(1,813)</td>
<td>(670)</td>
<td></td>
</tr>
</tbody>
</table>

Note: All variables are from baseline with the exception of full income, which was measured at year 1, and the number of school age children in the household, which is presented at years 1 and 15.
Table 2: Public benefit receipt at one-year survey by mother’s relationship status at birth

<table>
<thead>
<tr>
<th></th>
<th>Fragile Families</th>
<th>Married</th>
<th>Fragile Families</th>
<th>Cohabiting</th>
<th>Single</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cash benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child tax</td>
<td>0.44</td>
<td>0.78</td>
<td>0.48</td>
<td>0.40</td>
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</tr>
<tr>
<td>EITC</td>
<td>0.60</td>
<td>0.20</td>
<td>0.56</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>TANF</td>
<td>0.31</td>
<td>0.04</td>
<td>0.24</td>
<td>0.38</td>
<td></td>
</tr>
<tr>
<td>SSI</td>
<td>0.04</td>
<td>0.01</td>
<td>0.04</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0.05</td>
<td>0.05</td>
<td>0.04</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td><strong>In-Kind benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Stamps</td>
<td>0.46</td>
<td>0.11</td>
<td>0.40</td>
<td>0.51</td>
<td></td>
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<tr>
<td>WIC</td>
<td>0.83</td>
<td>0.42</td>
<td>0.82</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>0.72</td>
<td>0.31</td>
<td>0.67</td>
<td>0.76</td>
<td></td>
</tr>
<tr>
<td>Employer provided health insurance</td>
<td>0.25</td>
<td>0.69</td>
<td>0.29</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>Public Housing &amp; vouchers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing Subsidy</td>
<td>0.03</td>
<td>0.36</td>
<td>0.04</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Public Education</td>
<td>0.56</td>
<td>0.50</td>
<td>0.53</td>
<td>0.58</td>
<td></td>
</tr>
<tr>
<td>ECEC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head start</td>
<td>0.06</td>
<td>0.02</td>
<td>0.05</td>
<td>0.06</td>
<td></td>
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<tr>
<td>Child care subsidy</td>
<td>0.13</td>
<td>0.02</td>
<td>0.11</td>
<td>0.15</td>
<td></td>
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<tr>
<td>Child care tax credit</td>
<td>0.17</td>
<td>0.29</td>
<td>0.18</td>
<td>0.15</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Fragile families refer to non-marital births.
Figure 1. Total Public Benefits for fragile families and married families at One-year, Three-year, and Five-year, Nine-year, and Fifteen-year Surveys (2016 dollars)

Year 1

**Fragile Families ($27,356)**
- ECEC: 8%
- Food Stamps & WIC: 10%
- Public Education: 40%
- Health Insurance: 22%
- Other Cash: 6%
- Housing: 7%
- Child Tax Credit: 2%
- EITC: 5%

**Married Families ($20,400)**
- ECEC: 5%
- Food Stamps & WIC: 5%
- Public Education: 44%
- Health Insurance: 30%
- Other Cash: 2%
- Housing: 6%
- Child Tax Credit: 6%
- EITC: 2%

Year 3

**Fragile Families ($30,397)**
- ECEC: 13%
- Food Stamps & WIC: 9%
- Public Education: 36%
- Health Insurance: 22%
- Other Cash: 6%
- Housing: 7%
- Child Tax Credit: 3%
- EITC: 4%

**Married Families ($24,640)**
- ECEC: 8%
- Food Stamps & WIC: 3%
- Public Education: 43%
- Health Insurance: 30%
- Other Cash: 2%
- Housing: 5%
- Child Tax Credit: 7%
- EITC: 2%

Year 5

**Fragile Families ($45,885)**
- ECEC: 12%
- Food Stamps & WIC: 6%
- Public Education: 52%
- Health Insurance: 16%
- Other Cash: 4%
- Housing: 4%
- Child Tax Credit: 3%
- EITC: 3%

**Married Families ($40,402)**
- ECEC: 7%
- Food Stamps & WIC: 2%
- Public Education: 58%
- Health Insurance: 21%
- Other Cash: 2%
- Housing: 3%
- Child Tax Credit: 6%
- EITC: 1%
Notes: Fragile families include mothers with cohabiting partners, unpartnered mothers living with other adults, and unpartnered mothers living alone. All fragile families experience nonmarital births. Married families are mothers who experienced a marital birth. Other Cash includes TANF, SSI, and Other cash assistance. Health Insurance includes employer provided health insurance and Medicaid. Housing includes public housing and vouchers and homeowner tax deductions. ECEC includes Head Start, child care subsidies, and the child care tax credit.
Figure 2. Market and Full Incomes of Married and Fragile Families (Year 15)