# Private Financial Transfers, Family Income, and the Great Recession

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## Abstract

Using longitudinal data from the Fragile Families and Child Wellbeing Study ($N = 4,701$; 1998–2010), the authors studied whether the unemployment rate was associated with private financial transfers (PFTs) among urban families with young children and whether family income moderated these associations. They found that an increase in the unemployment rate was associated with greater PFT receipt and that family income moderated the association. Poor and near-poor mothers experienced increases in PFT receipt when unemployment rates were high, whereas mothers with incomes between 2 and 3 times the poverty threshold experienced decreases. Simulations estimating the impact of the Great Recession suggest that moving from 5% to 10% unemployment is associated with a 9-percentage-point increase in the predicted probability of receiving a PFT for the sample as a whole, with greater increases in predicted probabilities among poor and near poor mothers.

From December 2007 until June 2009, the United States experienced the Great Recession, its worst financial crisis since the Great Depression (Grusky, Western, & Wimer, 2011; National Bureau of Economic Research, 2010). The level of unemployment increased dramatically during this period, from approximately 5% to 10% in the country as a whole, although certain subgroups and geographic areas experienced particularly high levels (Hout, Levanon, & Cumberworth, 2011). Low-income families were one subgroup especially vulnerable to the poor economic conditions; estimates from the Current Population Survey indicate that unemployment rates in the lowest income decile were as high as 31% from October to December 2009 and were nearly 20% in the second lowest income decile (Sum

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& Khatiwada, 2010). Because the Great Recession was associated with such high levels of unemployment, especially among economically disadvantaged families, it is critical to understand how families in general, and low-income families in particular, manage to support themselves when unemployment levels are high and aggregate economic conditions are poor.

Prior research has found that *private financial transfers* (PFTs), defined as financial support provided to the mother by anyone other than the child's father, are a relatively common and potentially important source of income, particularly for families with young children. Research has found that PFTs are the most common source of private support for families with young children and are worth approximately 15% of mother's earnings, suggesting PFTs are an important component of families' income package (Pilkauskas & Alvarado-Urbina, 2014). In addition, studies have shown that PFTs are wealth enhancing for families with children (Hao, 1996) and are a key economic resource that helps low-income mothers make ends meet (Edin & Lein, 1997; Teitler, Reichman, & Nepomnyaschy, 2004). As a result, one way that families with young children may deal with bad aggregate economic conditions (and the increased need that they produce), like those experienced during the Great Recession, is to increase PFTs received from family members and nonrelatives. If, however, members of their network were also negatively affected by the poor economic conditions, network members may not have the means to provide families with children with PFTs. Thus, it is also possible that PFTs received tend to decrease when rates of unemployment are high. Determining whether families with young children are able to rely on an increase in PFT receipt when economic conditions are bad is critical because a long line of research has demonstrated that family income, and in particular family income in early childhood, is an important predictor of a wide range of outcomes for children (Brooks-Gunn & Duncan, 1997).

In this study, we investigated three research questions. First, what is the association between the unemployment rate and PFT receipt among urban families with young children? Second, does family income moderate the association between the unemployment rate and PFTs received for this population? Third, how does the predicted probability of PFT receipt differ when the unemployment rate is at 5% (its level before the start of the Great Recession) compared to the peak unemployment rate during the Great Recession (10%)? Although prior research has studied whether aggregate unemployment is associated with the percentage of household income made up by PFTs (Haider & McGarry, 2006), no research has used longitudinal data (including families prior to, and during, the Great Recession), or studied families with young children in particular. In addition, no research has investigated differences in the association between the unemployment rate and PFTs by family income. This is an important oversight because evidence suggests that low-income families may have been particularly vulnerable to the Great Recession (Sum & Khatiwada, 2010). Even with this greater need, it is unclear that PFT receipt among low-income families will increase in poor economic conditions: The networks of low-income mothers may not have the economic resources necessary to provide PFTs as compared with higher income families. Last, no research has studied the impact of the Great Recession on PFTs by

exploring the predicted probability of PFT receipt at different unemployment rates consistent with pre- and peak recession levels.

To address these questions, we used data from the first five waves of the Fragile Families and Child Wellbeing Study (hereafter *Fragile Families*; see www.fragilefamilies.princeton.edu/), covering the years 1998–2010. These longitudinal data were particularly well suited to this research because they provide significant variation in the unemployment rate over time, in particular because the latest wave of data collection occurred during the Great Recession. These data also include an oversample of unmarried births, resulting in a relatively economically disadvantaged sample, making it possible to study heterogeneity in the association between the unemployment rate and PFTs by family income levels.

## Background

### Aggregate Economic Conditions and PFTs

Studies have documented sharp decreases in assets (Wolff, Owens, & Burak, 2011), income, and employment (Smeeding, Thompson, Levanon, & Burak, 2011) as a result of the Great Recession, but to date no studies have looked at PFTs. We are aware of only one previous study that has explored the association between the unemployment rate and PFT receipt (Haider & McGarry, 2006). The authors found that a 1-percentage-point increase in the unemployment rate increased the percentage of household income made up of PFTs by 5.7%. In related research, two studies have found that unemployment at the individual level was associated with a greater likelihood of receiving a PFT (Mazelis & Mykyta, 2011; Swartz, Kim, Uno, Mortimer, & O'Brien, 2011). Studies of individual unemployment and PFTs are limited in that they are affected by individual choice. A mother may choose to exit the labor force, or she may be forced to leave as a result of the economy (e.g., be laid off). The aggregate unemployment rate, on the other hand, has the advantage of being exogenous to the mother's decision making, nonetheless being highly correlated with individual unemployment. In addition, the aggregate unemployment rate captures not only the increased likelihood that a mother is unemployed but also the increased likelihood that other members of her household and network (potential sources of PFTs) are unemployed (Pilkauskas, Currie, & Garfinkel, 2012). By using the aggregate unemployment rate we therefore could study how local economic conditions are associated with PFTs at the household level.

In addition to the limited empirical evidence, theory does not provide a clear indication as to the likely direction of the association between PFTs and the unemployment rate. Because poor economic conditions, such as those experienced in the Great Recession, likely reduce the incomes of both potential recipients and donors, the unemployment rate likely influences PFTs. On the one hand, research has found that individuals are more likely to provide PFTs to lower income family members and provide them with larger amounts of money the lower their income (Altonji, Hayashi, & Kotlikoff, 1997; Cox, 1987; McGarry & Schoeni, 1995). This finding led to our first hypothesis:

*Hypothesis 1:* Higher unemployment rates will be associated with increased odds and dollar values of PFT receipt.

On the other hand, research has found that the income of the donor matters in determining the probability and amount of PFTs received (Altonji et al., 1997; Cox, 1987; McGarry & Schoeni, 1995). In particular, studies have found that family members with higher incomes are more likely to provide a PFT and provide larger amounts (Altonji et al., 1997; Cox, 1987; McGarry & Schoeni, 1995). This finding suggested a second hypothesis:

*Hypothesis 2:* Higher unemployment rates will be associated with lower odds and dollar amounts of PFT receipt.

## Income, Unemployment, and PFTs

In addition to overall associations, we studied differences in the association between the unemployment rate and PFTs by income level. No empirical research has explored whether family income moderates the association between aggregate economic conditions and PFTs. From a theoretical standpoint, it is unclear whether the responsiveness of PFTs to the unemployment rate will vary across income levels. Because low-income individuals were the most likely to experience unemployment in the Great Recession (Sum & Khatiwada, 2010), we might expect that low-income mothers were more likely to have lost their job (or to have household members who lost their job) and to need additional income than higher income mothers. Moreover, low-income mothers may have been less likely than higher income mothers to have money saved on which they were able to draw to help absorb household unemployment (Beverly & Sherraden, 1999). These two factors suggest that low-income mothers may experience greater need for PFTs when aggregate economic conditions are poor than mothers with higher incomes. This led to our third hypothesis:

*Hypothesis 3:* High unemployment rates will be associated with a greater increase (or a smaller decrease) in the odds and dollar amounts of PFT receipt for low-income families than higher income families.

But PFTs involve network dynamics, not just the well-being of one individual or family. In general, studies have found that networks are homophilous, meaning that members of a network often share many characteristics in common (McPherson, Smith-Lovin, & Cook, 2001; Wimmer & Lewis, 2010). Research has found that the family, an important part of the network and the most common source of PFTs, is especially likely to be homophilous (McPherson et al., 2001). The members of a poor mother's network are thus more likely to be poor than the members of a higher income mother's network. As a result, the network members of poor mothers are likely to have been more negatively affected by poor local economic conditions and may therefore be less able than the network members of higher income mothers to provide PFTs. This suggested a fourth hypothesis:

*Hypothesis 4:* High unemployment rates will be associated with smaller increases (or larger decreases) in the odds and dollar amounts of PFT receipt for low-income families than higher income families.

### Control Variables

In addition to income-to-needs ratio, our analyses included a number of basic demographic variables related to PFTs. Research has found differences in PFTs by family structure (Eggebeen, 2005; Mazelis & Mykyta, 2011; Sarkisian & Gerstel, 2008; Swartz et al., 2011), age (Cox & Raines, 1985; Fingerman, Miller, Birditt, & Zarit, 2009; Schoeni, 1997), race (Hofferth, 1984; Hogan, Hao, & Parish, 1990; Jayakody, 1998; Lee & Aytac, 1998; O'Brien, 2012; Radey & Padilla, 2009), and education (Hofferth, 1984; Jayakody 1998; Lee & Aytac, 1998), and so we controlled for these demographic characteristics.

We also controlled for a number of health, behavioral, and personal characteristics found to be related to PFTs or for which there may be a link. Research has found differences in PFTs by self-reported health status (Eggebeen & Hogan, 1990), immigrant status (Glick, 1999; Mazelis & Mykyta, 2011), grandparent coresidence (Mazelis & Mykyta, 2011), grandmother's education (Berry, 2006; Mazelis & Mykyta, 2011; Swartz et al., 2011), and whether a mother lived with both her parents at age 15 (Lee & Aytac, 1998). In addition, we controlled for whether the respondent gave a PFT to others, because research has found that reciprocity is important in determining PFT receipt (Dominguez & Watkins, 2003; Edin & Lein, 1997; Harknett & Hartnett, 2011; Mazelis & Mykyta, 2011; Nelson, 2000). We also controlled for multipartnered fertility, because research has shown that multipartnered fertility influences perceived availability of financial support (Harknett & Knab, 2007) and therefore may influence actual PFTs. Respondent depression, impulsive behaviors, and substance abuse may influence whether network members are willing to give PFTs to respondents or whether respondents are willing to ask for them, so we controlled for each. Last, we included controls for city and interview year because aggregate conditions not captured by the unemployment rate may differ across cities and time, and these differences may influence PFTs.

## Method

### Data

We used data from Fragile Families, a longitudinal study consisting of 4,898 births between 1998 and 2000. The study was designed to be representative of births in large U.S. cities and included an oversample of unmarried births (for a full description of the sampling strategy, see Reichman, Teitler, Garfinkel, & McLanahan, 2001). Data were collected in 20 large U.S. cities (populations > 200,000) in 15 different states. Mothers and fathers were interviewed in the hospital when the child was born (1998–2000), and follow-up interviews were conducted when the child was 1 (from 1999 to 2001), 3 (from 2001 to 2003), 5 (from 2003 to 2006), and 9 years old (from 2007 to 2010). Ninety percent of the mothers who completed interviews at birth were interviewed again when the focal child was roughly 1 year old, 88% participated at the 3-year survey, 87% participated at the 5-year survey, and 76% participated at the 9-year survey. The 9-year interviews (conducted between May 2007 and February 2010) occurred during the Great Recession, providing us with great variation in the unemployment rate.

In this study, we used mother-reported data because they are more complete than the father-reported data and because mothers are more likely to live with children, a population that may be especially affected by changes in income due to PFT receipt. The data were pooled across survey waves from Year 1 to Year 9. If there were no attrition, our sample would have consisted of 4,898 mothers and 19,592 person-year observations. One hundred ninety-one mothers (approximately 4%) were not interviewed in any of the waves from Year 1 to 9, reducing our sample to 4,707 mothers and 18,828 person-years. The number of person-years was reduced further to 16,250 after accounting for the fact that, of the 4,707 remaining mothers, 1,771 were not interviewed at one or more of the interview waves. After accounting for missing observations on PFTs, the unemployment rate, family income level, and family structure, our sample was reduced to 4,701 mothers (96% of the original sample) and 16,156 person-year observations (our sample varies slightly by outcome variable). We used multiple imputation to impute values for missing data on the covariates, a technique that uses observed data to estimate values for respondents who are missing data (Allison, 2002; Rubin, 1976). Although we did not use the imputed values for PFTs, the unemployment rate, family structure, and family income, we did include them in our imputation model (von Hippel, 2007). In the analyses discussed in this article, we imputed five data sets and took the average estimate from these five data sets. We also estimated our analyses on the data without imputing for missing values (results not shown), and the findings were similar.

Analyses of respondents who dropped out of the study suggested that they were more economically disadvantaged than the remaining sample. Mothers who dropped out had lower income-to-needs ratios, were more likely to not have obtained a high school degree, and were less likely to be married. They were also less likely to be White and more likely to be immigrants. We address how attrition might have affected our results in the Discussion section.

### PFTs

Our analyses focused on two measures of PFTs, each of which referred to the past 12 months. First, we created a dichotomous variable to indicate whether a mother had received a PFT from the question, "In the past 12 months, have you received any financial help or money from anyone other than [FATHER]? Please include your relatives and friends, and his relatives and friends, but don't include help from any government or private agency." Mothers who indicated that they had received a PFT were asked approximately how much financial help they had received. Second, we used this information to create a continuous variable for dollar amounts received. Mothers who indicated that they had not received a PFT were given a value of $0, as has been done in previous research (Cox & Raines, 1985; Jayakody, 1998; Schoeni, 1997). Mothers unable to provide an exact estimate of the dollar amount of PFTs received were asked to provide a range (this occurred in 784 person-years, which was less than 5% of total cases). In these instances, we coded respondents as having received the midpoint value of the range. For instance, when mothers indicated that they received between $5,000 and $10,000, mothers were coded as having received $7,500 (the midpoint) for that wave. PFT dollars received were positively skewed, so we log transformed the variable to reduce the skewness. As recommended by Cameron and Trivedi

(2009), to keep respondents who received $0 in the analysis, we coded all such cases in our logged variable as .00001 less than the logged PFT value of the respondent who received the smallest logged PFT amount.

### Unemployment

We constructed the average unemployment rate over the year prior to the mother's interview to match the time frame of our dependent variables. Using data from the Bureau of Labor Statistics' Local Area Unemployment Statistics (www.bls.gov/lau/), we appended two unemployment rates to the data set: (a) a current city unemployment rate and (b) a baseline city unemployment rate. For the current city unemployment rate, we attached the unemployment rate for the Core Based Statistical Area in which the mother lived at the time of the interview (for each interview wave). For the baseline city unemployment rate, we appended the unemployment rate from the Core Based Statistical Area in which the mother lived during the baseline survey (even if she had moved) at the time of the interview.

We constructed these two measures because earlier studies have found that mothers who lived in a city with high unemployment rates are more likely to move in a later survey wave than mothers who lived in cities with lower unemployment rates (Pilkauskas et al., 2012). If a mother moved from the baseline city to another city to avoid high unemployment, this could introduce bias into our analyses if the current city's unemployment measure is used. By using the baseline city unemployment rate we were able to examine the association between the unemployment rate that individuals would have faced had they remained in the baseline city and PFTs. Despite the potential bias in the current city unemployment rate, in analyses (results not shown) we found that the association between the unemployment rate in the current city of residence and PFTs was similar to that of the baseline city. We chose to present analyses using the unemployment rate in the baseline city because we felt it was more exogenous.

Because individuals can leave the labor force altogether (and may be especially likely to do so in a deep recession), the unemployment rate may underestimate the true rate of people who are out of work when aggregate economic conditions are bad. The employment rate (number of employed people divided by the working age population age 18–64) can help address changes in labor force participation rates not captured by the unemployment rate. Using data from the Current Employment Statistics Survey and Census, we constructed average annual employment rates for the baseline city. In analyses not shown, results that used the baseline city employment rate were similar to those that used the unemployment rate in the baseline city.

### Income-to-Needs Ratio

We conducted stratified analyses by family income-to-needs ratio to investigate whether the associations between the unemployment rate and PFTs differ by family income. To investigate differences, we used a time-varying measure of the income-to-needs ratio, which adjusts household income for family size and indicates where a household's income stands in relation to the poverty threshold. We broke the income-to-needs ratio into four categories:

mothers whose household income was (a) 0%–99%, (b) 100%–199%, (c) 200%–299%, and (d) at least 300% of the poverty threshold (reference category).

### Additional Measures

Our analyses included a number of other covariates. We controlled for family structure (married, cohabiting, or single), respondent's age at the birth of the child (a continuous measure), race (non-Hispanic White, non-Hispanic Black, Hispanic, or other race/ethnicity), and educational attainment (less than high school, high school, some college, or college degree or more). We also controlled for immigrant status (a dichotomous measure of whether the mother is foreign born), whether the mother gave a PFT to someone in the last year (dichotomous), impulsive behaviors, and depression. Impulsivity was measured using an abbreviated six-item form of Dickman's (1990) impulsivity scale, which measures a mother's ability for self-control with items such as whether the mother often does or says things without considering the consequences. Depression was measured dichotomously (whether the mother is depressed) using the conservative threshold of the Composite International Diagnostic Interview Short Form, a standardized tool that assesses whether respondents experience a major depressive episode (dysphoric mood or anhedonia; hereafter *depression*; Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998). We also controlled for self-reported health status (excellent, very good/good, or fair/poor), a dichotomous measure of substance abuse (whether drinking or drug use had ever interfered with the mother's employment or personal relationships), a dichotomous measure for multipartnered fertility (whether the mother had children with multiple partners), whether the mother lived with both of her parents at age 15, grandmother's education (less than high school, high school, some college, or college degree or more), and a dichotomous measure of grandparent coresidence (whether one or more of the mother's own parents or her in-laws lived in the same household).

Last, we created dummy variables for each city of residence and interview year. All control variables were measured at baseline (at the birth of the child) with the exception of impulsivity (which was not assessed until Year 3 but is considered an unchanging characteristic); depression (measured at the 1-year follow up but asks about the prior year); and PFTs given to others, family structure, and interview year, all three of which were time varying.

### Analytic Strategy

To explore the association between the unemployment rate and PFTs received, we conducted logistic regressions to investigate the odds of PFT receipt and Tobit regressions to study the log dollar amounts received. With individual-level panel data, two of the most common approaches to logistic regression are to introduce individual fixed or random effects because these two approaches explicitly model the fact that repeated observations of the same individual are unlikely to be independent (Allison, 2012). For odds of PFT receipt, we chose to present results from a logistic regression model with individual random effects. Models with individual random effects capture both within-individual associations (how changes in the unemployment rate that a mother experiences are associated with her PFT receipt over time) and between-individual associations (how differences across mothers in

the unemployment rate influence differences in PFT receipt). Although logistic models with random effects do not control for unobserved time-invariant characteristics like logistic models with individual fixed effects, they have the benefit of not discarding information for individuals who do not change on the dependent variable (Allison, 2012). The individual fixed effects estimates (results not shown) were similar to the random effects estimates. Thus, the omission of unobserved time-invariant variables was not driving our results, so we present random effects models to avoid discarding useful information (Allison, 2012).

To estimate the association between the unemployment rate and the log of PFT dollars received, we used Tobit models, as has often been done in research that explores PFT dollars as the outcome (Cox & Raines, 1985; Jayakody, 1998; Schoeni, 1997). The Tobit model is a nonlinear one that assumes that all respondents have some positive probability of not receiving a PFT but that, among those who do receive a PFT, the dollar amount is a continuous random variable (Jayakody, 1998; Jensen & Tienda, 1988; Tobin, 1958). Because PFTs received were clustered around $0 and it is impossible to observe negative PFT amounts, the Tobit model was an appropriate choice because it allowed us to include respondents who received $0 in our analysis without violating model assumptions (Jayakody, 1998; Jensen & Tienda, 1988). Similar to probit models, fixed effects Tobit models that use standard parametric maximum-likelihood methods produce biased estimates, especially when there are more observations than time periods (Arrellano & Hahn, 2007). For this reason, we present estimates from Tobit models with individual random effects to account for repeated observations of the same individual.

To study whether there are differences in the association between the unemployment rate and PFTs received by income-to-needs ratio, we conducted a number of stratified regression models (poor, near poor, two to three times the poverty ratio, and more than three times the poverty ratio). For all stratified analyses we ran both a random effects logistic model to study odds of receipt and a random effects Tobit model to study log dollar amounts received. We then conducted Chow tests on the fully interacted models to determine whether the unemployment rate coefficients across income-to-needs levels were significantly different from one another (e.g., < 100% of poverty vs. 100%–199%; Chow, 1960).

Last, to assess the substantive significance of our findings with respect to the Great Recession, we ran simulations to assess how the Great Recession may have affected PFT receipt. For these analyses, we focused exclusively on odds of receipt for ease of interpretation. We calculated predicted probabilities using logistic regression analyses with individual random effects (including all of the control variables in prior models) under two conditions: (a) an unemployment rate of 5% (a pre-recession rate) and (b) an unemployment rate of 10% (the peak unemployment during the Great Recession). We present the results for the sample as a whole and for poor and near-poor families because our interest was primarily in how economically disadvantaged families with young children manage when aggregate economic conditions are bad.

## Results

### Descriptive Results

The sample is described in Table 1. After weighting the data to make them representative of births in 20 large U.S. cities, the average unemployment rate in the sample was 6%. Approximately 35% of the sample was living in poverty, and an additional 25% of the sample was near poor (100%–199% of the poverty ratio). Roughly one quarter of the sample was single, and an additional 20% of the sample was cohabiting. Nearly one third of the sample gave a PFT to others.

PFT receipt by income-to-needs ratio and the unemployment rate is described in Table 2. On average, 28% of urban families with young children received a PFT, and the average PFT received was $724. Poor (income-to-needs ratio < 1) and near-poor (between one and two times the poverty threshold) families were more likely to receive PFTs, but received much smaller amounts, than families with incomes above three times the poverty level. In terms of macroeconomic conditions, when unemployment rates were less than 4%, families were more likely to receive a PFT (33%) as compared to when unemployment rates were above 8% (25%).

#### What is the association between the unemployment rate and PFTs received?

—To further test the association between the unemployment rate and PFTs received, and to better account for potentially confounding factors, we conducted multivariate regression analyses. In Table 3 we report the results of logistic and Tobit regression analyses. The results indicate that a one-percentage-point increase in the unemployment rate was associated with 10% higher odds of receiving a PFT and with a statistically significant greater amount of PFT dollars received. These results were consistent with Hypothesis 1, which predicted that higher unemployment rates would be associated with greater PFT receipt, and failed to support Hypothesis 2, which predicted that an increase in the unemployment rate would be associated with reduced PFT receipt.

Table 3 also documents the association between our covariates and PFT receipt. Of particular interest were the family income-to-needs ratio covariates, because these were the measures that we expected may moderate the association between the unemployment rate and PFT receipt. The results demonstrate that family income was significantly associated with PFT receipt. We found that mothers who were poor (0%–99%), near poor (100%–199%), and with incomes two to three times the poverty threshold were more likely to receive PFTs, and received more PFT dollars, than mothers whose income was three times the poverty threshold or higher. We also found differences in PFT receipt by family structure and whether the mother had given PFTs to others. We found that married and cohabiting mothers were less likely to receive PFTs, and received smaller PFT amounts, than single mothers. In addition, mothers who had given a PFT to others were more likely to receive a PFT themselves and received larger PFT amounts, demonstrating the importance of reciprocity.

#### Does family income moderate the association between the unemployment rate and PFT receipt for families with young children?—In Table 4 we present the

results of the analyses stratified by income-to-needs ratio. For poor and near-poor mothers, a 1-percentage-point increase in the unemployment rate was associated with a 13% and 20% higher odds of receiving a PFT, respectively, as well as with a statistically significant greater amount of PFT dollars received. By contrast, for mothers with incomes two to three times the poverty threshold, a 1-percentage-point increase in the unemployment rate was associated with 19% lower odds of PFT receipt and a statistically significant reduction in PFT dollars received. Finally, we found no association between the unemployment rate and PFTs received (in terms of both odds and dollars) for mothers in the highest income group.

Chow tests on the fully interacted models that compared each income group to one another (e.g., < 100% vs. 100%–199%) indicated that the association between the unemployment rate and both odds of receiving PFTs and dollar amounts received among the poor, near-poor, and highest income groups were significantly larger than the association between the unemployment rate and PFT receipt for mothers with incomes in the 200%–299% category. These results were consistent with Hypothesis 3, which predicted that poor and near-poor mothers would experience the greatest increases in PFT receipt in response to poor economic conditions.

### Simulation Results From the Great Recession

In Table 5 we present results from simulations that estimate the impact that the Great Recession may have had on PFT receipt. During the Great Recession the unemployment rate increased from an average of about 5% unemployment to approximately 10% unemployment (Hout et al., 2011). To model how the change in the unemployment rate during the Great Recession would be associated with PFT receipt, we calculated the predicted probability of PFT receipt at 5% (pre-recession) and 10% (recession) unemployment for the full sample and for poor and near-poor families because we found that these were the only two income groups who experienced higher PFT receipt when the unemployment rate increased. This allowed us to assess whether PFTs are an important coping strategy for economically disadvantaged families with young children in poor economic conditions. Moving from 5% to 10% unemployment (akin to the increase in the Great Recession) was associated with an increased probability of PFT receipt of 9 percentage points for the full sample. For poor and near-poor families, moving from a 5% to 10% unemployment rate was associated with an even greater change in the predicted probability of PFT receipt: The percentage of families who received a PFT rose by 12 points for poor families and 19 points for near-poor families. Moreover, at 10% unemployment, the predicted probability of PFT receipt for a poor or near-poor mother was quite high: Nearly half of poor and near-poor mothers were predicted to receive a PFT when the local unemployment rate was 10%.

## DISCUSSION

In this study we examined three research questions: (a) What is the association between the unemployment rate and PFT receipt for urban families with young children?; (b) Does family income moderate the association between the unemployment rate and PFTs received?; and (c) How does the predicted probability of PFT receipt differ when the

unemployment rate is at 5% (its level before the start of the Great Recession) compared to the peak unemployment rate during the Great Recession (10%)? By exploring these questions, we made a number of important contributions to the literature on PFTs. Our study is the first to investigate the association between the unemployment rate and both odds of PFT receipt and dollar amounts of PFTs received using longitudinal data collected both before and during the Great Recession. In addition, no research that we are aware of has explored whether family income moderates the association between the unemployment rate and PFTs, an important omission because economically disadvantaged families were disproportionately harmed by the Great Recession and disproportionately experience poor local economic conditions (Sum & Khatiwada, 2010).

From a theoretical standpoint, it was unclear how poor economic conditions would influence PFT receipt because poor economic conditions were likely to reduce incomes of both potential PFT recipients and potential PFT donors (Altonji et al., 1997; Cox, 1987; McGarry & Schoeni, 1995). Our results were consistent with Hypothesis 1: An increase in the unemployment rate was associated with significantly greater odds of receiving a PFT and PFT dollars received. We were unable to test mechanisms directly but, because we found that poor economic conditions were associated with greater, rather than less, PFT receipt, our results suggest that increased financial need of potential PFT recipients may have been a more important factor, on average, than reduced economic resources available to potential PFT donors in determining PFT receipt when economic conditions were bad.

The way in which family income would moderate the association between the unemployment rate and PFT receipt was also theoretically ambiguous. On the one hand, economically disadvantaged mothers may be more likely to experience an increase in PFT receipt than more economically advantaged mothers when economic conditions are bad because studies have suggested that members of their household may be particularly harmed by poor aggregate economic conditions. On the other hand, because networks tend to be homophilous (McPherson et al., 2001; Wimmer & Lewis, 2010), PFT receipt may have increased less for economically disadvantaged than more advantaged mothers, given that network members of disadvantaged mothers may also be more likely to be negatively affected by poor aggregate economic conditions and to have fewer financial resources themselves. Our results provide support for the view that disadvantaged families experienced greater increases in PFT receipt when aggregate economic conditions were bad. Poor and near-poor mothers experienced statistically significant increases in both the odds of PFT receipt and PFT dollars received, increases that were statistically different from mothers earning between two and three times the poverty threshold.

This study has some limitations. First, our sample was not generalizable to the whole U.S. population, because Fragile Families is representative of families who gave birth in large cities in the United States between 1998 and 2000. Many of the mothers in the sample, however, were low income and were likely to be particularly reliant on network support and especially vulnerable to poor aggregate economic conditions. Second, because Fragile Families is a panel survey, some respondents dropped out of the study for the entire period of observation or for specific survey waves. As mentioned earlier, mothers who dropped out generally were more disadvantaged than mothers in our analytic sample. The impact of

attrition on our findings is unclear. On the one hand, our analytic sample was disproportionately White, native born, and had a high school education or more (all factors associated with higher levels of PFT receipt), suggesting that our results may constitute a slight overestimation of the association between the unemployment rate and PFT receipt. On the other hand, our analytic sample also had a higher income-to-needs ratio than mothers who dropped out and consisted disproportionately of married respondents (factors associated with less PFT receipt), both of which suggest that our findings may be slight underestimates. Given the conflicting evidence regarding the direction in which attrition would influence our results and the strong main associations that we observed between the unemployment rate and PFT receipt, we believe it is unlikely that our substantive results would change if there were no attrition. Third, we were unable to directly test mechanisms for why worse aggregate economic conditions were associated with greater PFT receipt, because we had very little information on network members and the processes that connect macroeconomic context with PFTs.

Despite these limitations, this study may have important implications for public policy. Previous research has demonstrated that mothers with children were able to rely on greater public support to deal with poor aggregate economic conditions (Pilkauskas et al., 2012). Our results suggest that mothers with children did not rely solely on the public safety net to help counter difficult macroeconomic conditions; mothers also relied on the private safety net, given that they experienced higher odds of PFT receipt and greater PFT dollars received when the unemployment rate was higher. Our results also suggest that some of the most disadvantaged mothers (those with low incomes) experienced particularly large increases in PFT receipt, suggesting that their greater need compared to higher income mothers may be being met by greater PFT receipt. Using simulations, we demonstrated that the associations between the unemployment rate and PFTs received were not only statistically significant but also substantively important, in particular for economically disadvantaged mothers. Our simulations suggested that moving from a pre–Great Recession unemployment rate of 5% to a Great Recession unemployment rate of 10% was associated with an increase of nine percentage points in the predicted probability of receiving of a PFT for the sample as whole, 12 percentage points for poor mothers, and 19 percentage points for near-poor mothers. Moreover, the results suggest that a large proportion of poor and near-poor mothers may benefit from PFTs when aggregate economic conditions are poor: At 10% unemployment, the simulations predicted that approximately half of poor and near-poor mothers would receive a PFT.

Although these results provide encouraging evidence that mothers were able to rely on the private safety net when aggregate economic conditions were bad, this does not suggest that public support is any less necessary. First, our results and previous research (Dominguez & Watkins, 2003; Edin & Lein, 1997; Harknett & Hartnett, 2011; Mazelis & Mykyta, 2011; Nelson, 2000) have demonstrated that reciprocity is an important determinant of social support. In the short term, our results suggest that low-income mothers did not experience a reduction in PFT receipt compared to more advantaged mothers due to a lesser ability to reciprocate social support. If, however, poor economic conditions have long-term financial implications for the disadvantaged, and limit the ability of disadvantaged mothers to reciprocate support over time, it is possible that PFT support will be unsustainable. Second,

even if disadvantaged mothers are able to rely on PFTs over the long term, network members providing PFTs are likely to have limited economic resources themselves due to homophily and, therefore, are likely to be stretching themselves thin when they provide financial assistance to low-income mothers.

To further our understanding on how families rely on the private safety net when macroeconomic conditions are poor, we believe that future research should investigate the following areas. First, it may be important to explore not only whether macroeconomic conditions influence the odds and dollars amounts of PFTs received but also whether aggregate economic conditions influence the number of times that families with children relied on PFTs. Considering the reciprocal nature of the private safety net, consistent reliance on PFTs may have different implications for network relationships than one-time reliance, regardless of the dollar amounts received. Second, disadvantaged families have been found to often rely on in-kind support, such as child care and housing, rather than financial support (Henly, Danziger, & Offer, 2005). Future research should explore whether aggregate economic conditions are associated with reliance on these in-kind sources of private support. Last, we found heterogeneity in the association between the unemployment rate and PFT receipt by family income. Future research should explore other possible sources of heterogeneity. Heterogeneity across racial groups may be particularly important, because research has demonstrated that Black and Hispanic workers were disproportionately harmed by the poor economic conditions produced by the Great Recession (Hoynes, Miller, & Schaller, 2012).

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**Table 1**

Sample Descriptive Statistics (*N* = 16,156)

| Variable | *M/SD* or % |
|---|---|
| Unemployment rate *(M/SD)* | 5.5/1.5 |
| Income-to-needs ratio | |
| <100% of poverty | 34 |
| 100%–199% | 24 |
| 200%–299% | 14 |
| 300+% | 29 |
| Family structure | |
| Married | 54 |
| Cohabiting | 20 |
| Single | 25 |
| Age at birth (*M/SD*) | 27.0/6.2 |
| Race/ethnicity | |
| White | 30 |
| Black | 35 |
| Hispanic | 28 |
| Other | 7 |
| Education | |
| < High school | 25 |
| High school | 32 |
| Some college | 23 |
| College or more | 20 |
| Foreign born | 24 |
| Gave a private financial transfer | 31 |
| Impulsivity (*M/SD*)[a] | 1.3/1.6 |
| Depression[b] | 10 |
| Health status | |
| Excellent/great | 33 |
| Very good/good | 59 |
| Fair/poor | 8 |
| Substance abuse | 1 |
| Multipartnered fertility | 25 |
| Lived with biological parents at age 15 | 53 |
| Grandmother's education | |
| < High school | 23 |
| High school | 48 |
| Some college | 13 |

| Variable | *M*/*SD* or % |
|---|---|
| College or more | 16 |
| Grandparent in household | 18 |

*Note:* Sample selection was based on nonmissing data on receipt of a private financial transfer. Statistics are weighted using city weights for the baseline survey wave. *N* is not weighted.

[a]From Dickman's (1990) impulsivity scale.

[b]From the Composite International Diagnostic Interview Short Form; indicates whether respondent meets the conservative criteria for depressive symptoms.

**Table 2**

Percentage and Dollar Amounts of Private Financial Transfers Received, by Income-to-Needs Ratio and the Unemployment Rate (*N* = 16,156 Person-Years)

| Variable | Full sample | Income-to-needs ratio | | | | | Unemployment rate | | |
|---|---|---|---|---|---|---|---|---|---|
| | | <100% | 100%–199% | 200%–299% | 300+% | Low (<4%) | Medium (4%—8%) | High (8+%) |
| % Received | 28 | 31 | 30 | 30 | 23 | 33 | 28 | 25 |
| $ Received | 724 | 340 | 470 | 720 | 1,381 | 637 | 736 | 774 |
| SD | 3,292 | 1,638 | 2,113 | 2,722 | 5,148 | 2,687 | 3,376 | 3,492 |
| N/n | 16,156 | 6,435 | 4,324 | 2,265 | 3,132 | 4,366 | 10,808 | 982 |

*Note*: Sample selection was based on nonmissing data on receipt of a private financial transfer. Statistics are weighted using city weights for the baseline survey wave. *N*s are not weighted. The 300+ income-to-needs category in % received is statistically significant from all other categories at *p* < .05. All received $ amount differences by income are statistically significant at *p* < .05. All percentage-received differences by the unemployment rate are statistically significant at *p* < .05.

**Table 3**

Regression Results of Probability of Receiving Private Financial Transfers (PFTs) and Log Dollar Amounts Received on the Unemployment Rate (*N* = 16,156)

| Predictor | Receipt[a] (Logit) | | | $ Received (logged)[b] (Tobit[c]) | |
|---|---|---|---|---|---|
| | β | SE | OR | β | SE |
| Unemployment rate | 0.10** | .03 | 1.10 | 0.25** | .09 |
| Income-to-needs ratio (ref.: 300+%) | | | | | |
| <100% of poverty | 0.80** | .09 | 2.22 | 2.25** | .27 |
| 100%–199% | 0.64** | .08 | 1.90 | 1.87** | .26 |
| 200%–299% | 0.52** | .09 | 1.68 | 1.54** | .27 |
| Family structure (ref.: single) | | | | | |
| Married | −0.55** | .07 | 0.58 | −1.75** | .21 |
| Cohabiting | −0.17** | .06 | 0.84 | −0.48** | .17 |
| Age at birth | −0.06** | .01 | 0.94 | −0.19** | .02 |
| Race/ethnicity (ref.: White) | | | | | |
| Black | −0.01 | .09 | 0.99 | −0.30 | .28 |
| Hispanic | −0.51** | .11 | 0.60 | −1.92** | .35 |
| Other | 0.20 | .18 | 1.23 | 0.56 | .56 |
| Education (ref.: < high school) | | | | | |
| High school | 0.07 | .08 | 1.08 | 0.23 | .24 |
| Some college | 0.31** | .08 | 1.36 | 1.01** | .27 |
| College or more | 0.50** | .14 | 1.65 | 1.63** | .43 |
| Foreign born | −0.93** | .11 | 0.40 | −3.02** | .35 |
| Gave a PFT | 0.36** | .05 | 1.43 | 1.06** | .15 |
| Impulsivity | 0.04* | .02 | 1.04 | 0.15** | .06 |
| Depression | 0.32** | .09 | 1.38 | 1.11** | .29 |
| Health status (ref.: Excellent/great) | | | | | |

| Predictor | Receipt[a] (Logit) | | | $ Received (logged)[b] (Tobit[c]) | |
|---|---|---|---|---|---|
| | β | SE | OR | β | SE |
| Very good/good | 0.17** | .06 | 1.18 | 0.50* | .20 |
| Fair/poor | 0.03 | .12 | 1.03 | 0.10 | .39 |
| Substance abuse | 0.23 | .17 | 1.26 | 0.76 | .52 |
| Multipartnered fertility | −0.12 | .07 | 0.88 | −0.33 | .23 |
| Lived with bio parents at age 15 | −0.08 | .06 | 0.92 | −0.29 | .20 |
| Grandmother's education (ref.: < high school) | | | | | |
| High school | 0.22* | .09 | 1.25 | 0.68* | .29 |
| Some college | 0.57** | .11 | 1.77 | 1.84** | .35 |
| College or more | 0.73** | .12 | 2.08 | 2.44** | .38 |
| Grandparent in household | 0.32** | .07 | 1.38 | 1.00 | .22 |

*Note:* Regressions control for city and interview year fixed effects (not shown), OR = odds ratio; ref. = reference category.

[a] Number of observations = 16,156.

[b] Number of observations = 15,993.

[c] Tobit coefficients are not directly interpretable beyond the significance level and direction.

*
  *p* < .05.

**
  *p* < .01.

**Table 4**

Regression Results From Receipt of Private Financial Transfer and Log Dollars Received on the Unemployment Rate by Income-to-Needs Ratio

| Predictor | Income-to-needs ratio | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | < 100% | | | 100%–199% | | | 200%–299% | | | 300+% | | |
| **Unemployment rate** | β | SE | OR | β | SE | OR | β | SE | OR | β | SE | OR |
| % Received: Logit | 0.12* | 0.05 | 1.13 | 0.19** | 0.06 | 1.21 | −0.21* | 0.09 | 0.81 | 0.08 | 0.08 | 1.08 |
| $ Received (logged): Tobit[a] | 0.32* | 0.13 | | 0.49** | 0.18 | | −0.76** | 0.28 | | 0.24 | 0.30 | |

*Note*: Regressions include the full set of controls (not shown). Differences between < 100% and 200%–299%, 100%–199% and 200%–299%, and 200%–299% and 300%+ are statistically significant at *p* < .05. OR = odds ratio.

[a]Tobit coefficients are not directly interpretable beyond the significance level and direction.

*
*p* < .05.

**
*p* < .01.

**Table 5**

Simulations of Great Recession and Private Financial Transfer Receipt (Predicted Probabilities)

| Variable | Full sample | Poor | Near poor |
|---|---|---|---|
| Unemployment | | | |
| 5% | 0.30 | 0.35 | 0.32 |
| 10% | 0.39 | 0.47 | 0.51 |
| Difference | 0.09 | 0.12 | 0.19 |

*Note:* Predicted probabilities with estimates are based on the full set of controls (controls not shown).